Food Packer

Canning Glasspacking Freezing

April 1953

Man-of-the-month: Daniel M. Heekin

The vibrant whistles of Ohio River steamboats heralded the industrial growth of America . . . Dan Heekin paced this mighty growth . . . and now owns the whistles! Page 70.

Kemp Bros. of Indiana—

Tomato juice, a household food, owes its existence to this enterprising company. Page 30.

Flavor-evaluation of insecticide-treated canned foods.

Wisconsin's Weckel and Chapman discuss this vital problem. Page 32.

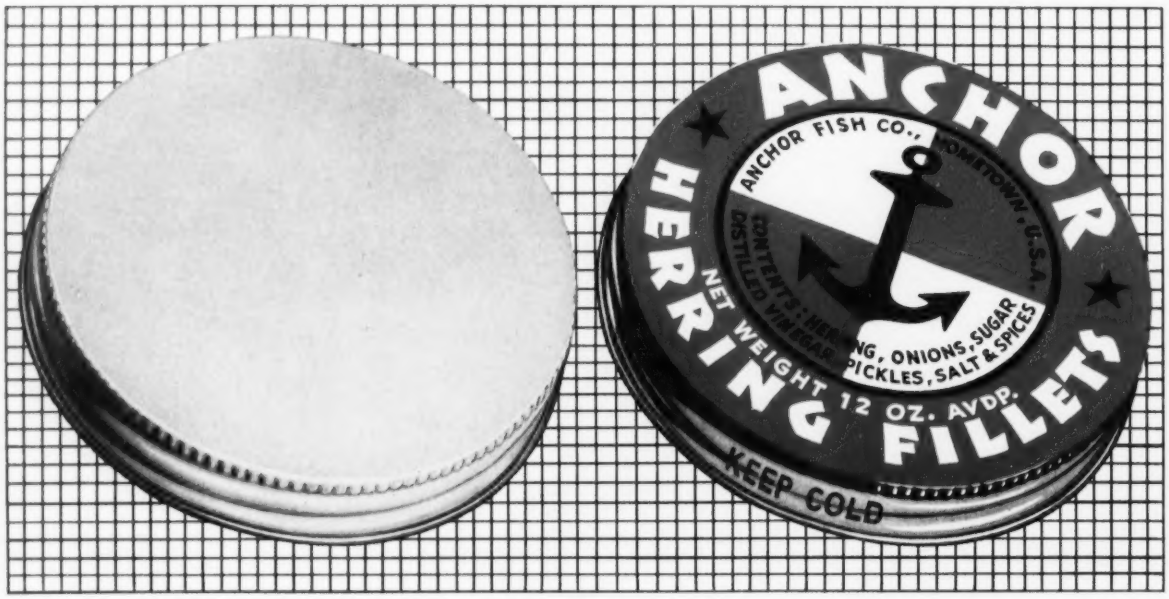
• • •

Five-year nutrition research program is started by frozen-food association.

NAFFP's goal is to provide homemakers with nutritional excellence of frozen foods. Page 38.

A Vance Publication

The National Magazine of Production and Management



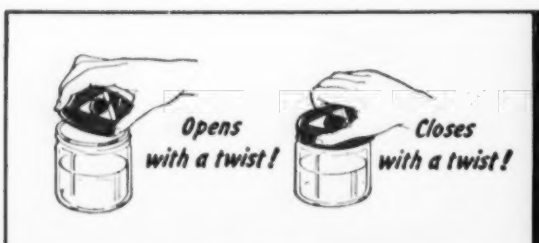
Which cap is also a lasting label?

● A colorful cap is more than an effective sales aid. It's also a durable "label"—one that won't come off, even when the package is stored in a damp refrigerator. The decoration stays on the cap permanently and continues to repeat its sales message every time the product is used.

There are many ways you can use your cap to good advantage: to display your brand name, trade-mark, or sales slogan. Or you can use it to offer a premium, recommend a recipe, spotlight a special price, or suggest new uses for your product.

Armstrong's packaging specialists will be glad to study your product and your sales program, then suggest cap designs that will help your product sell itself. For further information, just contact your near-by Armstrong office or write Armstrong Cork Co., Glass and Closure Div., 9004 Prince Street, Lancaster, Penna.

Western Representative: I. F. Schnier Co., Inc.
San Francisco 7 and Los Angeles 12



Armstrong's Metal Caps

Packaging Headquarters for Armstrong's Glass Containers, Embossed-Top Corks, Crowns, Artmold Plastic Caps, and Du Pont "Cel-O-Seal" Bands

The Modern Way is the PROGRESSIVE WAY...

HEEKIN PERSONAL SERVICE MEANS UP-TO-DATE SERVICE

THERE are canners today who say to themselves, "What should I do?"—"How can I do it?"—"Who can I talk to about my problems?" They can talk to US. Maybe a new, secondary item could be produced with little added labor—overhead or production cost—that would increase your profits. After fifty-two years in the canning industry we know the answers—we are an old company with young ideas—young ambitions. Maybe you can join our efforts. A Heekin contract for cans means a lot more than cans.

HEEKIN FOOD RESEARCH

HEEKIN FOOD ENGINEERING

HEEKIN'S FIFTY-TWO YEARS of PERSONAL SERVICE

1901 • 1953

Heekin Cans

52 YEARS OF SERVICE

THE HEEKIN CAN CO., CINCINNATI 2, OHIO

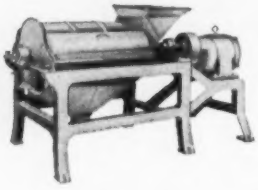
PLANTS AT CINCINNATI & NORWOOD, OHIO; CHESTNUT HILL, TENNESSEE; SPRINGDALE, ARKANSAS

Keep Product Quality Up- Production Costs Down

FMC specialized tomato equipment helps build profits for processors three important ways: (1) it *cuts costs* of operation and maintenance throughout the line by using continuous automatic methods; (2) it's *flexible* —types and sizes available to meet varying plant and operational requirements; and (3) it assures a consistently *high-quality* pack of tomatoes, tomato juice and other tomato products.

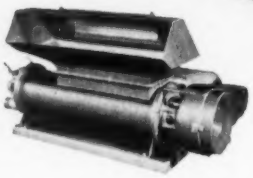
Write for full information, or call your nearest FMC representative.

—with fmc TOMATO PREPARATION AND PROCESSING EQUIPMENT



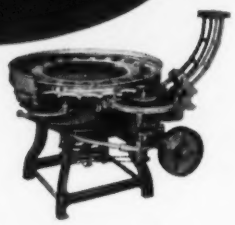
FMC PULPERS and FINISHERS

Heavy duty stainless steel paddles and screens. Capacities: Pulpers, 5 to 20 tons per hr. Finishers 20 to 100 GPM.



FMC TOMATO CHOPPER

Delivers small uniformly chopped product at 25 tons per hr. Table-level height eliminates feed elevators.

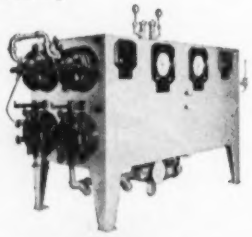


FMC HAND PACK FILLER

Sturdy, stainless top. Gear head motor or packaged variable speed drive for economical, timed operation.

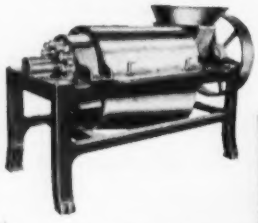
FMC JUICE PROCESSOR

Continuous preheating, pasteurizing, holding and cooling on one base. Capacities: 20–70 GPM. Other units for single heating and cooling.



FMC JUICE EXTRACTORS

Large screen, extra long screw and extraction area for capacities up to 75 GPM. Lower capacity models available.



FMC TOMATO LINES

Thorough washing, sorting and scalding on a continuous conveyor. Available in high or low pressure water systems.

OTHER *fmc* TOMATO EQUIPMENT

- Washers (Flood-type and rotary)
- Peeling and Inspection Tables
- Scalders
- Fillers (Juices, pastes, solids)
- Heating coils

FOOD MACHINERY AND CHEMICAL CORPORATION

Canning Machinery Division

General Sales Offices:

WESTERN: SAN JOSE 6, CALIFORNIA **EASTERN:** HOOPESTON, ILLINOIS

Food Packer

APRIL 1953

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Wilbert Schaal, Editor
Helene Comm, Associate Editor
Dr. W. A. Gould, Quality Control Editor
Robert Y. Kerr, Washington Editor
R. B. Lundahl, Advertising Production
Thornell Barnes, Circulation Manager
Elmer Olin, Ass't. Circulation Manager

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The consumer price index, defined and described . . . . . **Page 20**
The consumer price index places food at 30.1 percent of the "statistical average family's" total purchases, according to Kerr.

Kemp Brothers Packing Co.–pioneer tomato juice canners Page 30
Efficiency and technology have paced the widespread acceptance of tomato juice; this Indiana canner is credited with developing the product.

Flavor problems of applying insecticides to vegetables . . . Page 32
Recent attention has been focused on insecticidal effects on flavor, odor, and other qualities of canning crops; here's a resume of Wisconsin's research project that gives an evaluation of treated crops.

Western Frozen Food Processors hold annual convention . . Page 40
California freezers elect officers, cut 260 samples of the 1952 pack, and discuss current frozen food market instability.

Part II: Consistency in processed foods . . . . . **Page 42**
Continuing his March consistency discussion, Dr. Gould describes in detail the Stormer viscosimeter and the Gardner mobilometer.

Pickle packers launch big promotional program . . . . . **Page 44**
"Operation pickle push" gets under way at the winter meeting of the National Pickle Packers Association in Chicago. Its objective: more profits in pickles from increased pickle sales.

DEPARTMENTS

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Vol. 34, No. 4 FOOD PACKER (formerly Canning Age.) Title registered in U. S. Patent Office. Copyright, 1952, Vance Publishing Corporation.

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Events to Come

April 16. Indiana Canners Assn., spring meeting, Claypool Hotel, Indianapolis.

April 16. Tidewater Canners Assn. of Virginia, annual meeting, The Tides Inn, Irvington.

May 5-6. Pennsylvania Canners Assn., sales clinic, Pocono Manor, near Stroudsburg.

June 14-15. Michigan Canners Assn., spring meeting, Park Place Hotel, Traverse City.

June 22-26. Institute of Food Technologists, 13th annual meeting, Boston, Mass.

July 16-17. National Pickle Packers Assn., summer meeting, Drake Hotel, Chicago.

October 12-14. Packaging Institute, 15th annual forum, Hotel Statler, New York City.

October 15-17. Florida Canners Assn., annual meeting, Casa Blanca Hotel, Miami Beach.

November 2. Illinois Canners Assn., fall meeting, Chicago.

November 9-10. Wisconsin Canners Assn., 49th annual convention, Schroeder Hotel, Milwaukee.

November 9-10. Michigan Canners Assn., fall meeting, Pantlind Hotel, Grand Rapids.

November 19-20. Indiana Canners Assn., annual convention, French Lick Springs Hotel, French Lick.

November 23-24. Pennsylvania Canners Assn., 39th annual convention, Penn Harris Hotel, Harrisburg.

December 3-4. Tri-State Packers Assn., 50th annual meeting.

"Sales of items in glass have been increasing year after year"

says L. V. EBERHARD, President,
Eberhard Foods, Inc.,
Grand Rapids, Michigan

"Visible packages are indispensable in today's modern food super markets.

"The trend among shoppers is a growing preference for packages which require the least in study to obtain an accurate understanding of the product.

"We appreciate the merchandising advantages offered by foods in self-selling glass packages. *Sales on such items have been increasing year after year,* and we sincerely anticipate additional items in this field making their appearance in merchandisable glass packages."

Glass is the perfect self-selling package. Its color and sparkle attract . . . its honesty convinces.

A glass pack is convenient to use. Housewives like the visible inventory they get with glass, and the safe, convenient way foods in glass can be stored.

This attractive glass decanter is available in 8-oz., 12-oz., 16-oz., quart and half-gallon sizes.

Today's self-service selling demands a self-selling package . . . *GLASS!*

That's why so many foods are now packed in glass. Table syrup, for example, is now sold almost entirely in glass, because the glass package is an attractive easy-to-use *table* package.

There's no better way to sell a product than to let it sell itself through visual display. Products in glass today are geared to self-selling. The cartons are easy to handle, easy to cut for display.

So remember . . . today's self-service selling demands a self-selling package . . . GLASS . . . for fast turnover!

Duraglas CONTAINERS SELL FOOD BY SIGHT

OWENS-ILLINOIS GLASS COMPANY • TOLEDO 1, OHIO • BRANCHES IN PRINCIPAL CITIES

People and Plants

W. A. Churchill

T. J. Schaefer

C. M. Rudy

C. B. Stauffacher

F. D. Tincknell

A. P. Danforth

Winston A. Churchill was appointed director of production and research of Andersen's Foods, Inc., Santa Barbara, Calif., it was announced by **Robert T. "Pea Soup" Andersen,** president of the firm.

Fred Deutsch, recently named frozen food packaging sales manager for Marathon Corp., Menasha, Wis., announces the appointment of three regional sales managers and a merchandising manager. They are **Thomas J. Schaefer,** central sales manager; **James A. Turner,** eastern; **Hugh W. Hicks,** western; and **Kenneth G. Houts,** merchandising manager.

Charles M. Rudy was appointed sales manager for the canned and frozen chicken divisions of Blue Star Foods, Inc., Omaha, Neb.

Charles B. Stauffacher was appointed control officer for Continental Can Co. **Peter Wojtul** was appointed director of sales for Continental, and **W. K. Neuman** succeeds him as general manager of sales, metal division.

F. Dier Tincknell was elected treasurer of Chain Belt Co., Milwaukee, Wis. **John Sutcliffe** was appointed personnel manager of the company's Milwaukee works.

Alan P. Danforth has been appointed new products manager of Snow Crop Marketers, division of Clinton Foods, Inc., New York.

Stecher-Traung Lithograph Corp. announces that its Baltimore, Md. regional sales and service office was moved to Midtown Bldg., 2510 St. Paul St. **Harold F. Nunn** and **M. C. Carpenter** were appointed assistants to the sales manager in Stecher-Traung's Rochester, N. Y. division.

Belle Products Co., Inc., 1800-02 Crockett, Houston, Tex., announces the completion of a new air conditioned plant.

Otoe Food Products Co., Nebraska City, Neb., announced that 483 employees would share more than $150,000 at the firm's 12th annual profit-sharing festivities. This is the largest distribution of funds made since the inauguration of the company's bonus program in 1940.

Norman W. Cedergreen has resigned as president of Cedergreen Frozen Pack Corp., Bellingham, Wash. He was elected chairman of the board. Cedergreen was succeeded as president by **Edward E. Willkie,** president of Pacific American Fisheries, Inc., which owns a controlling interest in Cedergreen Corp.

T. L. Wilkerson, general sales manager of the agricultural chemicals division, American Cyanamid Co., New York, was elected a director of the National Agricultural Chemicals Assn.

The Naas Corp. plant at Markle, Ind. was damaged by fire recently. The packaging room was destroyed and damage is estimated at approximately $100,000.

W. S. Everts, vice-president of the Canners League of California since 1943, retired recently.

Flako Products Corp., New Brunswick, N. J., has established a consumer service department. **Miss Eleanor Crook,** formerly with the Jekyll Island Packing Co. in charge of frozen shrimp promotion, is director of the new department.

Ray Weber was named manager of the advertising department of Swift & Co., Chicago. He succeeds **Vern D. Beatty,** who resigned.

The Foxboro Co., Foxboro, Mass., has opened a new branch office at 2207 S. Pinecrest, Wichita, Kan.

John Sexton & Co., Chicago, has purchased the Columbia Conserve Co. of Indianapolis.

Warren E. Hill was elected vice-president in charge of operations of Emhart Mfg. Co.

Chain Belt Co., Milwaukee, announces the appointment of four sales engineers to district sales offices: **William C. Beals,** Buffalo office; **Robert B. Hill,** Portland, Ore. office; **James W. Mueller,** Chicago office; and **Dabney P. Murrill,** Atlanta office.

Marvin G. Spahr resigned as vice-president in charge of sales for the Climalene Co., Canton, Ohio, to enter the food brokerage business in northeastern Ohio. His headquarters will be at 1433 Ridge Rd. N. W., Canton.

W. L. Egger of Ebeling-Egger Co. has been named president of the San Antonio Food Brokers Assn. Other new officers are: First vice-president, **H. L. Gentry,** F. M. Lewis Co.; second vice-president, **Newt A. Brown,** Interstate Brokerage Co.; and secretary-treasurer, **J. E. Mangum, Jr.,** John Mangum Co.

The Searle Food Corp., Hollywood, Fla. and Indianapolis, Ind., announces the resignation of **Donn A. Searle** as president and a director of the corporation.

Donald E. Jones, 1466 W. Locust St., Milwaukee, Wis., was appointed district sales manager for Basic Food Materials, Inc., Vermilion, Ohio. He will be in charge of sales activities in Wisconsin, Iowa, Minnesota and part of Michigan. For the past four years Jones was in charge of canned meat sales in Wisconsin for Rath Packing Co.

O. R. Gibbons was appointed sales promotion manager for the folding cartons division of Robert Gair Co., Inc., New York. **J. D. Malcolmson** resigned as manager of Gair's products development department and moved to Berkeley, Calif. He will remain on the company's staff.

Kane's Fine Foods, Mount Vernon, N. Y., has been appointed Snow Crop institutional distributor for Westchester County.

David R. Parfitt, vice-president and general sales manager of Thatcher Glass Mfg. Co., Inc., Elmira, N. Y., was elected to the firm's board of directors.

A. K. Robins & Co., Baltimore, Md., has completely rebuilt the former plant of Baltimore Forge Co. and installed a second floor to be used for canning machinery storage.

American Spice Trade Assn.'s southern California regional group elected the following officers for 1953: Chairman,

(Continued on page 66)

What TEPP* can do for

farmers:

Spray one day and harvest poison-free crops 48 hours later!

processors:

Cleaner crops that need less washing, fewer rejects due to last-minute infestations!

They all like remarkable TEPP—the pesticide that kills without leaving any lingering poisonous residue. When properly handled, TEPP can assure cleaner, higher quality crops that mean more profits for both farmer and processor.

Low cost, amazingly effective TEPP kills aphids, thrips, red spider mite, leafhopper nymphs, flea beetles and many other pests. TEPP is available 1) as a liquid concentrate, 2) as a stabilized dust, and 3) with other active ingredients. For quick kills and residue-free crops, specify TEPP formulations from your supplier. For the names of manufacturers of TEPP, write to Eastman Chemical Products, Inc., Chemicals Division, Kingsport, Tennessee.

TEPP*

means pest-free crops

poison-free crops

**Tetraethyl Pyrophosphate is made from triethyl phosphate—an Eastman chemical. TEPP is not supplied by Eastman Chemical Products, Inc.*

Eastman
CHEMICAL PRODUCTS, INC.
KINGSPORT, TENNESSEE

Sales representative for **TENNESSEE EASTMAN COMPANY,** division of **EASTMAN KODAK COMPANY**

CANCO

To the rescue... 25,000 times!

The Canco technical man is a very important person in your business.

No matter where your plants are located, you can rely on him to call *promptly* when you need him.

Day after day, Canco's trouble-shooters not only devote their energies to production line difficulties and to improving crop yields, but to suggesting new formulas and products . . . to supervising new installations . . . and to maintaining and increasing production.

During 1952, Canco technical men made more than 25,000 such calls on Canco customers.

If you do business with Canco, you know the value of this constant, conscientious technical service. If not, isn't it time you, too, added these superior services to your own?

Go first to the people who are first!

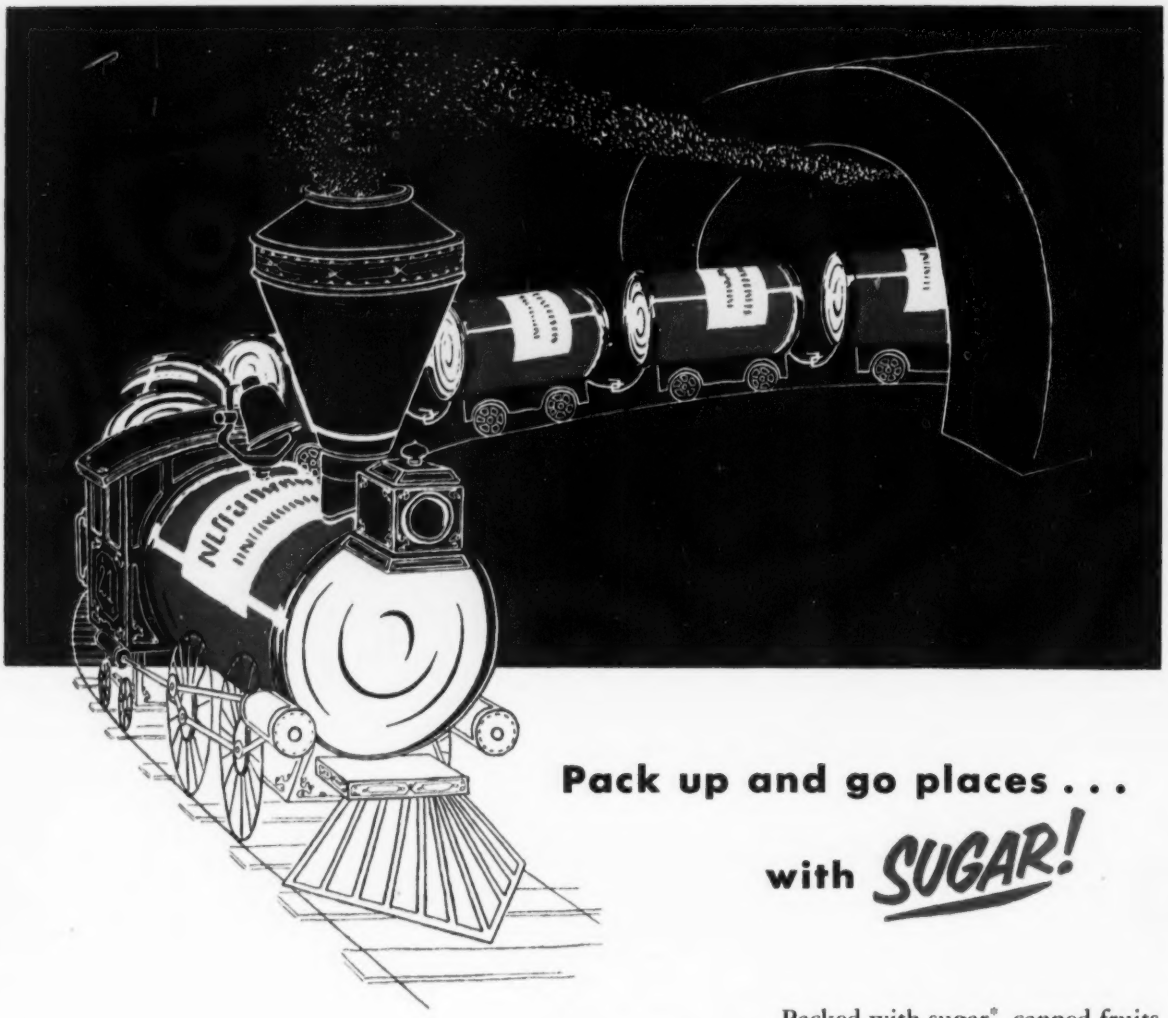
AMERICAN CAN COMPANY

CANCO

New York, Chicago, San Francisco; Hamilton, Canada

The Sanitary can—perfected by Canco—made commercial canning of fruits and vegetables possible; revolutionized the grocery business; helped raise the national level of nutrition and health.

Through the years, constant Canco pioneering and cooperation with the canning industry have brought forth widespread process and product improvement—opening new markets for canned foods of all kinds.



Pack up and go places . . .

with SUGAR!

Packed with sugar*, canned fruits
travel faster from dealer's counter to kitchen table!
That's why sugar, and *only* sugar, is used by leading canners!

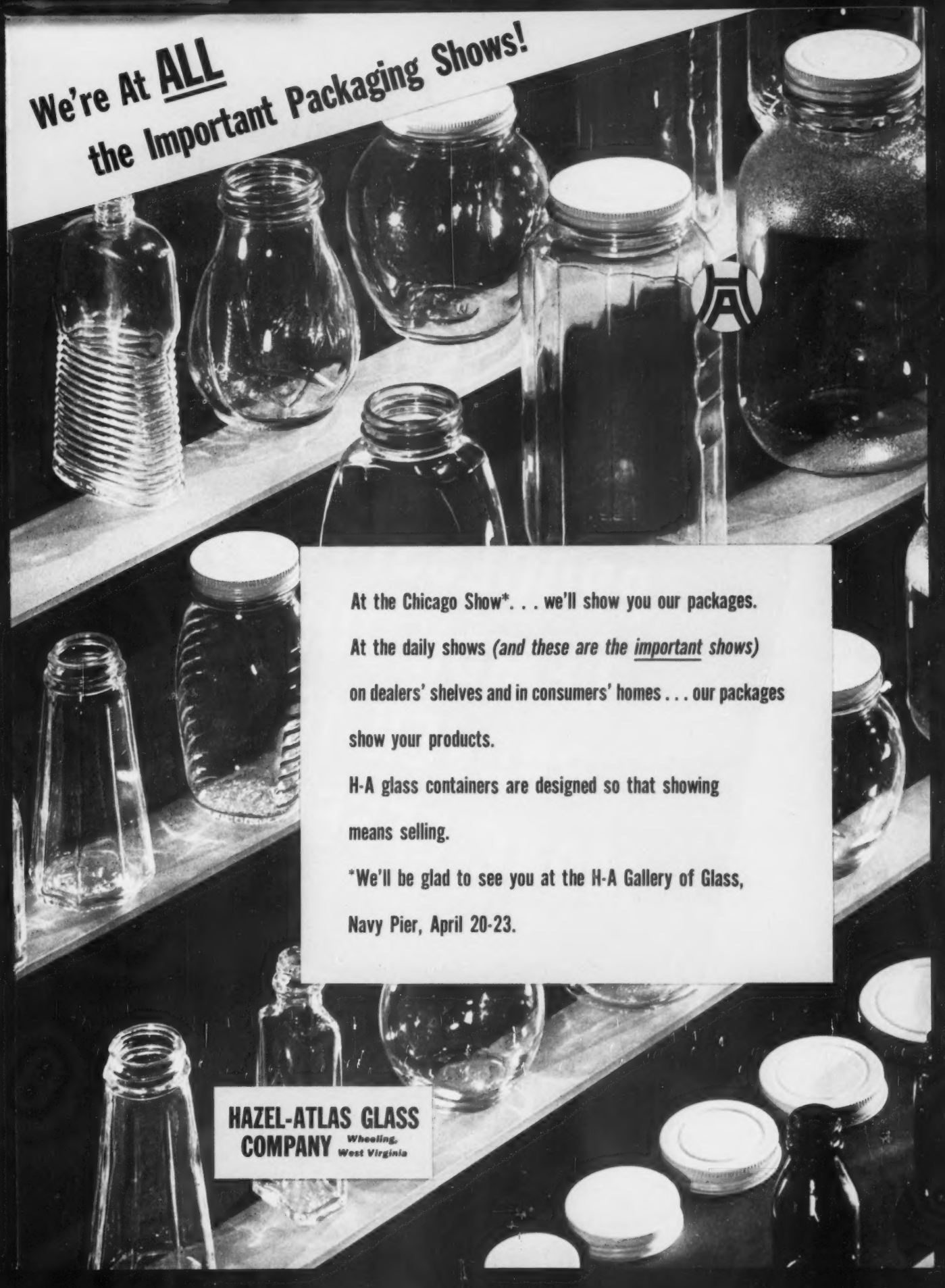
Sugar aids color retention—retards vitamin oxidation—and helps preserve the flavor and texture of fruits. Sugar is easier to use—requires no special handling or storage—provides 25 to 50% more sweetening power.

Pack with sugar for faster "pick-up" at the point-of-sale.

For up-to-the-minute facts explaining why sugar is the safest, most effective, and, in the long run, most economical sweetening agent you can use, write Department P.

*Sucrose—cane and beet sugar.

SUGAR
INFORMATION
INC.
NEW YORK 5, NEW YORK


We're At ALL
the Important Packaging Shows!
At the Chicago Show*. . . we'll show you our packages.
At the daily shows (and these are the important shows)
on dealers' shelves and in consumers' homes . . . our packages
show your products.
H-A glass containers are designed so that showing
means selling.
*We'll be glad to see you at the H-A Gallery of Glass,
Navy Pier, April 20-23.
HAZEL-ATLAS GLASS
COMPANY
Wheeling,
West Virginia

Food Technologists Attention!

REDUCE OXIDATION IN FRUIT PROCESSING... LEMON JUICE PROVEN 100% MORE EFFECTIVE!

4 ADDED benefits at ½ the cost!

The problem of "browning" and flavor loss that every fruit packer knows has now been greatly reduced. Latest research into the anti-oxidant properties of lemon juice has revealed startlingly effective qualities heretofore unexplored.

Lemon juice is a *natural* anti-oxidant. When used in processing, higher quality levels are obtained. The *full* flavor of your fruit is held and, in fact, sharpened, and the fruit also retains more of its natural color. Off-flavor development is retarded or completely eliminated. You'll be turning out a finished product with flavor *freshness.*

The secret of this newly-discovered superiority lies in the fact that when you use EXCHANGE Lemon Juices you get the *full* unrefined values of their citric and ascorbic acid content, PLUS the additional benefits found *only* in the natural, unprocessed fruit product.

- **Lemon juice contains natural bioflavonoid anti-oxidants for more effective preservative action.**
- **Lemon juice is a buffered system which permits a great range of dilution.**
- **Lemon juice has a low surface tension which accelerates penetration.**
- **Lemon juice has a delicate aroma and subtle taste that improve all fruit flavors.**

And in *addition* EXCHANGE Lemon Juice is *cheaper* to use than the anti-oxidant you're now using! In solution, ounce for ounce, lemon juice is *equally effective* as anti-oxidants *costing over twice as much!*

Use EXCHANGE Lemon Juice in just one production run and prove to yourself its superiority. Or write us for detailed analysis of its amazingly effective anti-oxidant properties.

EXCHANGE Lemon Juices are all made from fine lemons from the groves of sunny California. They are packed four different ways for your production needs:

EXCHANGE Single Strength Lemon Juice (with .1% benz.)—in barrels.
EXCHANGE Single Strength Lemon Juice—pure—in gallon tins.
CALEMONA Concentrated Lemon Juice—in gallon tins or barrels.
CAL-GROVE Frozen Single Strength Lemon Juice—in gallon tins.

Sunkist Growers

PRODUCTS DEPARTMENT • ONTARIO, CALIFORNIA

400 West Madison Street, Chicago 6, Illinois
99 Hudson Street, New York 13, N. Y.
318 Cadiz Street, Dallas 2, Texas

Let's Talk Citric!

Water's Expensive ...by the Mile!

Use Pfizer

CITRIC ACID ANHYDROUS

● Why pay freight charges on water? You can cut shipping costs by using Pfizer Citric Acid Anhydrous. This popular acidulant differs from the U.S.P. hydrous product only in that it contains no water of crystallization. It means a savings on 8½ pounds in shipping weight for every 100 pounds of the hydrous form you now use.

You'll get greater uniformity of acidulation in your products with Pfizer Citric Acid Anhydrous because its composition remains constant. It cannot dry out, won't cake under proper storage conditions, nor absorb water from the atmosphere.

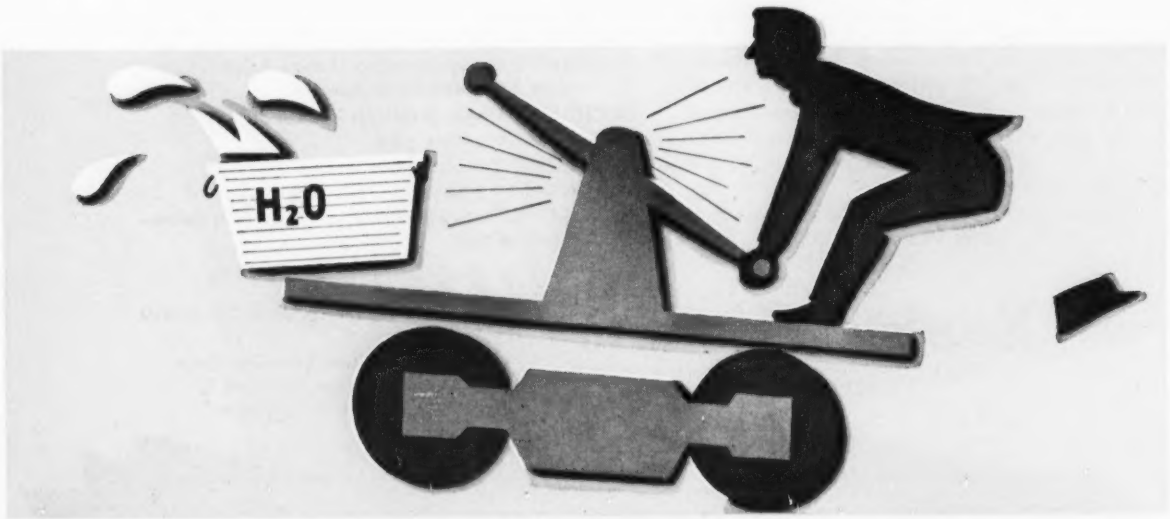
It requires less storage space and handling, too, for one drum in eleven can be saved by using the anhydrous product.

When you order, specify the citric that cuts freight costs ... Pfizer Citric Acid Anhydrous. For more data, write for Bulletin F-201.

CHAS. PFIZER & CO., INC.

630 Flushing Ave., Brooklyn 6, N. Y.
Branch Offices: Chicago, Ill.; San Francisco, Calif.; Vernon, Calif.; Atlanta, Ga

Use Pfizer Sodium Benzoate.



Manufacturing Chemists for Over 100 Years

Pfizer

HE WORKS FOR YOU...

AT NATIONAL CAN

A bodymaker is an intricate machine working on very close tolerances and setting up for a production run takes real "know-how." You can be certain that Frank Green works for YOU at National Can – for only when the can body meets your exact specifications will he start the run. Typical National Can service . . . where it counts!

Frank Green has been working for YOU at National Can for over 29 years.

NATIONAL CAN CORPORATION

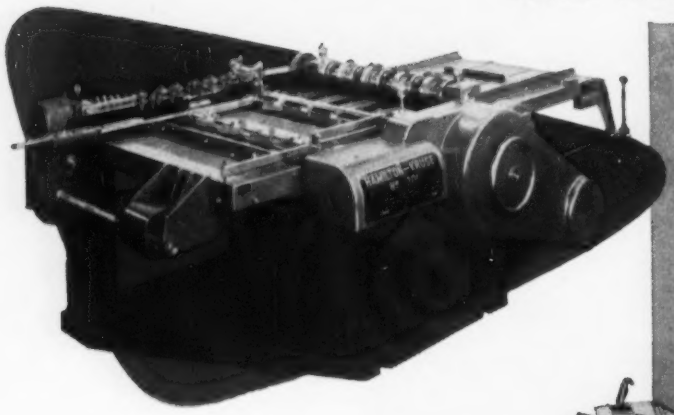
Plants at:

BALTIMORE, MD. • CHICAGO, ILL.
HAMILTON, OHIO • MASPETH, N.Y.

rugged, fast, dependable...

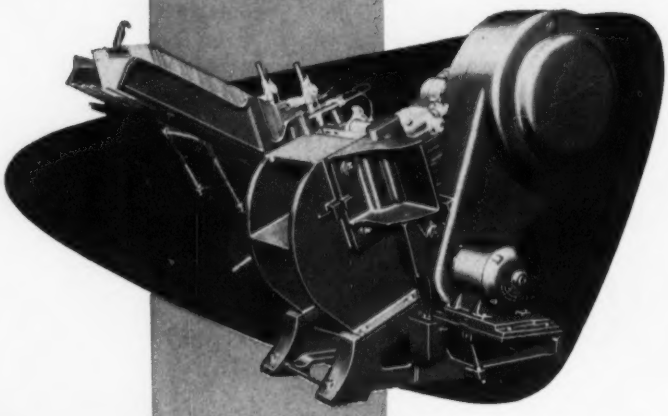
HAMILTON

can making machines



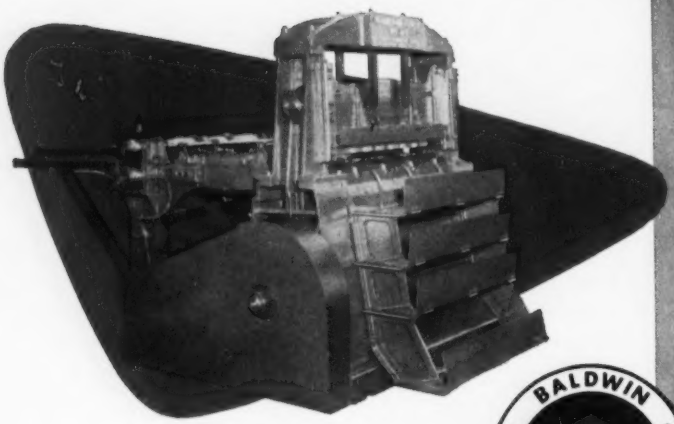
HAMILTON
duplex gang trimmer and slitter...

Automatically trims and slits sheets up to 36" at high speeds . . . as fast as 70 sheets a minute . . . newly designed for more efficient, economical operation.



HAMILTON
strip feed press . . .

New! . . . for high production . . . up to 300 strokes per minute and low maintenance . . . strong, welded construction . . . automatic lubrication.



HAMILTON
scroll shear . . .

Speeds output, handling sheets 25" to 36" square up to 125 strokes per minute. Cuts costs, saving up to 7% in tinplate.

Learn more about how modern machines from the complete Hamilton line can give you faster production at lower unit costs. Write . . .

BALDWIN · BLH · LIMA-HAMILTON

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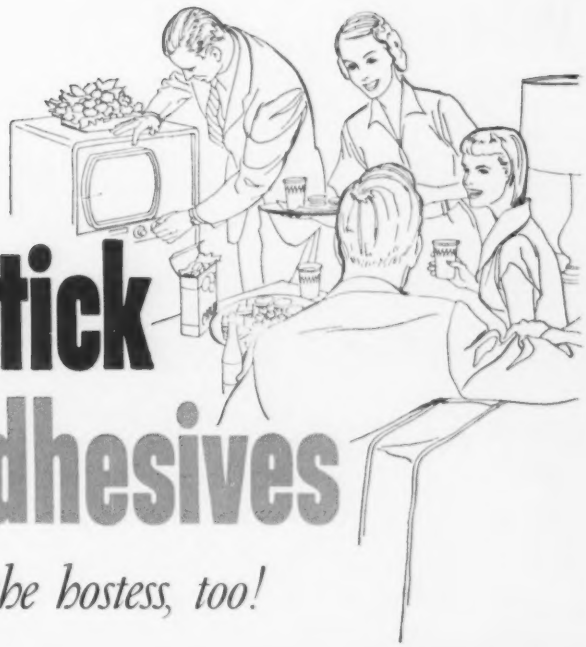


It's smart to stick with Swift's Adhesives

They serve you and the hostess, too!

As in other fields, Swift's Adhesives are used by many of the manufacturers who produce for the millions and millions of America's housewives—at work and at play. Swift's varied line includes adhesives for fabricating and sealing food and candy packages . . . for labeling bottles and jars . . . for these applications and many more.

When you need adhesives, always remember —

- Swift has years of specialized experience in adhesives production.
- Swift works with a broad range of quality raw materials.
- Swift has extensive adhesive manufacturing facilities from coast to coast.

A special adhesive for bottlers:

Swift's Evertite labeling adhesive . . . Semi-Iceproof—Designed for use on cold, wet, stippled or even slightly greasy bottles. We believe your tests will show it to be a clean machining, economical adhesive.

Swift's Evertite is used for labeling all these quality products of Crosse & Blackwell Co., Baltimore, Md. . . . assures a tight, neat seal . . . promotes an attractive appearance that helps sell the housewife.

Call SWIFT first for ADHESIVES

Swift & Company
Adhesive Products Department
Chicago 9, Illinois

This offer expires April 30, 1953

Please send your 10-gallon introductory trial shipment of Evertite, semi-iceproof adhesive, at the quantity price, to be tested for use in our operations. We understand, if not fully satisfactory, it may be returned for credit at your expense.

Name _____ *Title* _____

Firm Name _____

Address _____

City _____ *Zone* _____ *State* _____

Washington and You

Robert Y. Kerr, Washington Editor

The consumer price index: What it is and what it does

The index, an indicator of economic trends in consumer markets, places food at 30.1 percent of the "statistical average family's" total purchases. Kerr says

THE CONSUMER PRICE INDEX has burgeoned out with its new formulas and figures. And please, composing room, be good fellows and spell the name that way—CONSUMER. Sure enough, it used to be "consumers' price index"; but this is one of the changes, the leaving off of the "s" and the apostrophe. The Bureau of Labor Statistics won't get ferocious if the old spelling creeps in. But this is the new look, symbolizing the changed makeup, so BLS will be grateful if we follow their spelling.

The agency has been patient about several things, one of them being the widespread habit of calling this statistical enterprise a "cost-of-living index." But if you're going to be reasonably exact, and a statistician always wants us to be, you'll see that the BLS index isn't exactly a cost-of-living affair. Like Mike and Ike, they look alike. But the BLS arrangement is intended, by using a single averaged figure, to measure the percentage price change in a selected and weighted list of consumer purchases. Cost of living is an erratic thing; and it has its widest swings for a given family, not from shifts in prices but from the up and down changes in the family's income. Suppose a farm family in the southwest has been living on short commons and then of a sudden a thousand-barrel gusher blows in on the back forty. That family's cost of living will go up like a rocket. Local market prices may not have changed at all; but spending habits—oh me, oh my!

The consumer price index is based upon a carefully selected and scientifically weighted list of articles bought by an average city family in the industrial wage-earner or white-collar clerical worker groups. There are so many of these families, and their basic purchases in kinds and quantities of goods are so constant, that when the articles in the statistical market basket are measured mathematically, the resulting index number becomes a pretty accurate indicator of economic trends in the consumer markets.

Price 300 items

Setting up the formulas has to be done carefully. At present there are 300 items that are priced by sampling methods in 46 cities. These items have to be measured not only in price but also by the importance they have in the family budget. Surveys of spending patterns have to be made at intervals. For example, household purchasing agents buy less butter and more margarine than they did a few years ago. The two are about neck and neck; or maybe we should say spread and spread. The HPA's are buying less soap and more detergents. So it goes. Suppose Aunt Carrie runs out of pepper and buys herself a can next time she's in the market. She remembers prices; so let's suppose she finds that since her most recent previous purchase, some years ago, the price has advanced by several hundred percent. Aunt Carrie arches a contumelious eyebrow but says nothing; for she knows that six bits worth of seasoning will last her for five years or so. In fact the BLS doesn't include salt or pepper in its market basket, since they're too small in use volume to make a difference in the index and also because they're not representative of general trends.

Some examples: Through the years hamburger steak has followed almost exactly the trend average of meat prices. Calves liver has not. The discovery that liver is good for anemic persons sent the demand, and the price, through the roof. Because the price is so high, practically its only customers are this unpredictable margin of anemia sufferers. An official of the BLS remarked that the discovery of a method of synthesizing hematoglobulin protein, or whatever it is, probably would return liver to its old status and price as food for family pets.

Periodic price changes of separate items don't serve the complete purpose of the BLS. The agency wants to know the composite price change on its statistical market basket as a whole. And this is where the business of weighting not only items but groups of items shows up.

Food percentage changed

Food, for example, is placed at 30.1 percent of the statistical average family's total purchases. Housing represents 32 percent; apparel, 9.7 percent; transportation, 11 percent; recreation, 5.4 percent; and a final assortment called "other goods and services," 11.8 percent. The percentage weight given to food has been changed by the recently completed three-year study. This is because American families have changed their percentage spending pattern through the years. Previous to the recent change, food purchases were weighted as a little more than 40 percent of total family spending.

The change to 30.1 percent doesn't mean that this statistical average family is spending fewer dollars for food. In fact it's spending more dollars in the grocery store than it did 10 years ago. The explanation of course is that it has more dollars in the pay envelope but spends these dollars for more, and different, things. The base period, used until a few weeks ago for price comparisons, was 1935-1939. And, for example, at that time nobody bought TV sets.

Before the recent change, the agency did a periodic checking of 225 articles. Now it checks 300. As mentioned before, these check figures go through a sort of mathematical mill and come out as a single figure that can be used to gauge the changes in consumer price levels. Why the one figure? The BLS could hand us the

(Continued on page 46)

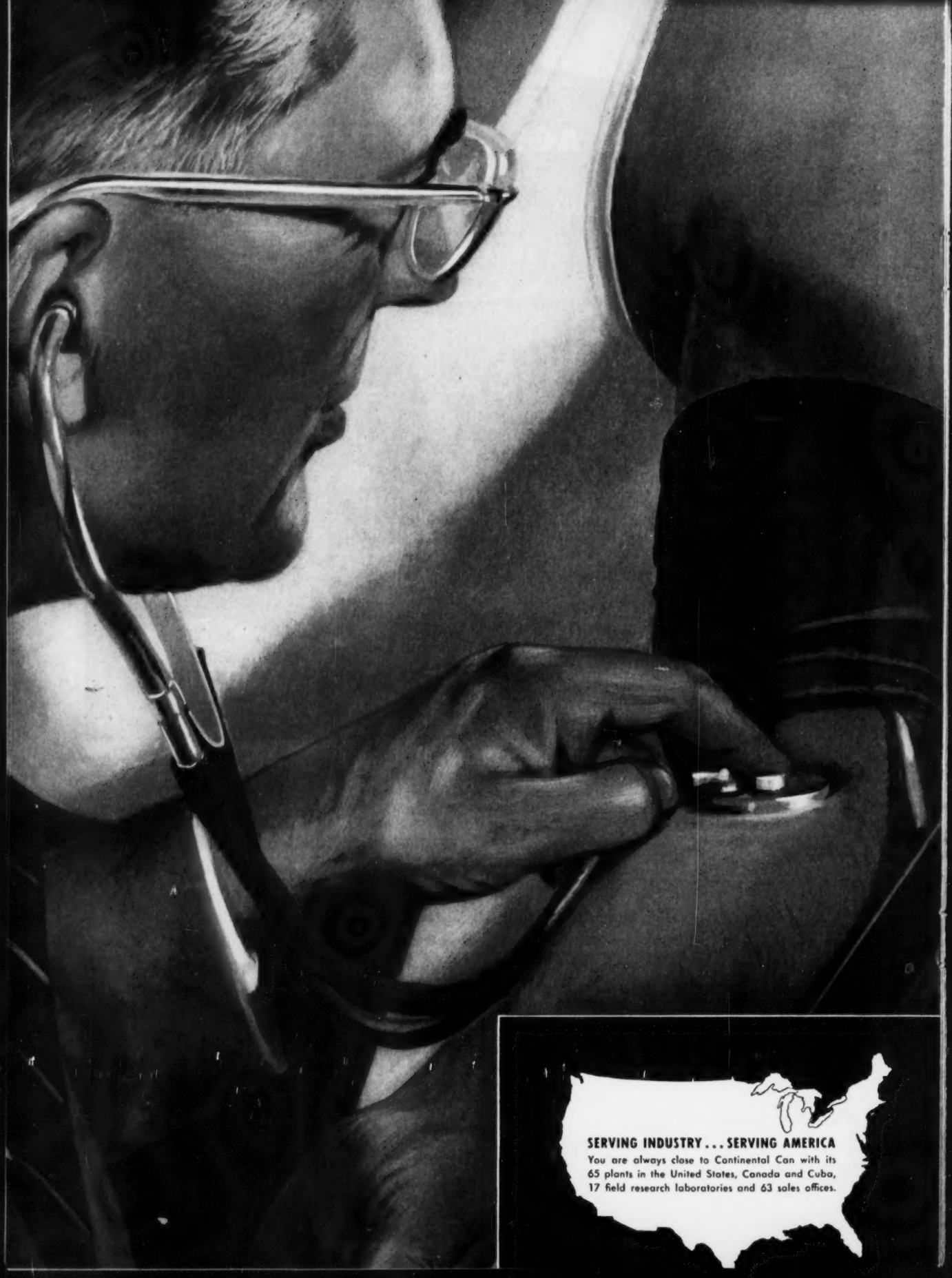
The Rex Agi-Tort Sterilizer employs the patented* *"end-over-end"* principle of agitation which assures positive, quick heating and cooling of can contents. It's the modern, efficient way to obtain top quality while substantially reducing processing time. Years of research, experimentation and testing have proved "end-over-end" rotation to be best method of obtaining fast, uniform heat penetration. You obtain the proven advantages of "High Temperature—Short-Time Processing" without danger of scorching, over-cooking or under-cooking.

The Rex Agi-Tort Sterilizer is especially suited for sterilizing in large cans—heretofore impractical. Difficult, viscous products can also be sterilized with full retention of quality and flavor. Why not investigate and find out how it fits your processing picture? Write for complete details. Chain Belt Company, 4647 W. Greenfield Ave., Milwaukee 1, Wis.

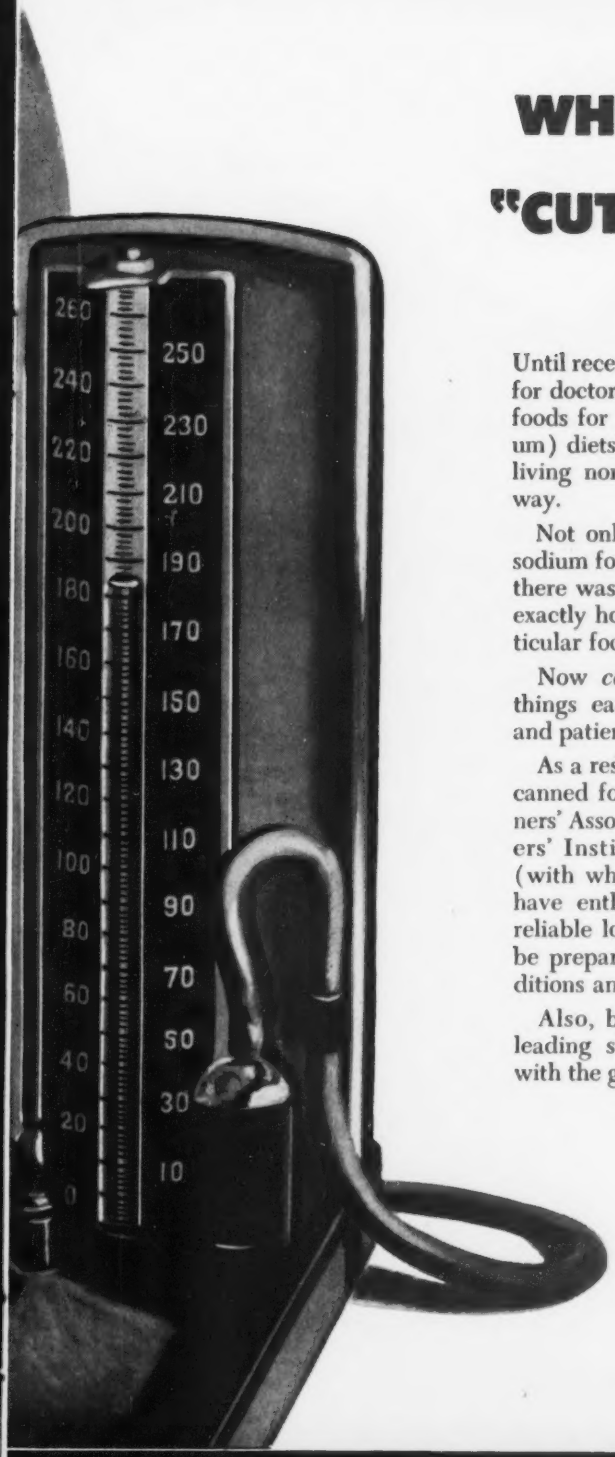
*Continental Can Co. Patent No. 2,517,542

CHAIN BELT REX COMPANY

Chain Belt COMPANY OF MILWAUKEE


SERVING INDUSTRY . . . SERVING AMERICA
You are always close to Continental Can with its
65 plants in the United States, Canada and Cuba,
17 field research laboratories and 63 sales offices.

WHEN THE DOCTOR SAYS, "CUT DOWN ON THE SALT!"



Until recently it was extremely hard for doctors to prescribe and control foods for people on low-salt (sodium) diets—particularly for patients living normal lives in every other way.

Not only were a variety of low-sodium foods difficult to obtain, but there was no simple way of telling exactly how much sodium any particular food contained.

Now *canned foods* are making things easier for doctor, dietician and patient alike.

As a result of research on dietetic canned foods in the National Canners' Association—Can Manufacturers' Institute Nutrition Program (with which Continental scientists have enthusiastically cooperated), reliable low-sodium foods can now be prepared under controlled conditions and precisely labeled.

Also, by working closely with leading scientific laboratories and with the guidance of the Council on Food and Nutrition of the American Medical Association, the natural sodium content of a wide variety of salt-free canned foods has been established.

Today persons on low-sodium diets can choose from a large variety of tasty low-sodium foods. It is estimated that during 1953, some 240 million cans of low-sodium fruits, vegetables, meats and fish will be prepared.

Always concerned with every phase of health as related to nutrition, Continental research people are constantly looking for ways to improve the health aspect of canned foods. As information is developed, it is being made available to canners, scientific and medical groups and the public. The end result is improved prospects for a pleasanter and longer life for many thousands of people. That is why we regard our work with dietetic foods as one of Continental's most worthwhile projects.

CONTINENTAL CAN COMPANY

CONTINENTAL CAN BUILDING

100 E. 42nd ST., NEW YORK 17, N. Y.

TIN CANS

FIBRE DRUMS

PAPER CONTAINERS

STEEL PAILS AND DRUMS

CAPS AND CORK

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Life Stream of Industry

BRINE

Now Yours Automatically Where You Want It —When You Want It

CANNING

TANNING

WATER SOFTENING

MEAT CURING

DYEING

CHEMICALS

YOUR INDUSTRY, like so many others, very probably uses brine in its operation.

And now the LIXATE Process, pioneered and developed by the International Salt Company, takes all the complications, all the inaccuracies, all the costly handling out of brine making. You use rock salt—and gravity does all the work.

You just turn a valve and *instantly* you have brine where you need it, when you need it—automatically!

And because this pure brine is *always* 100% saturated, because it *always* contains exactly 2.65 pounds of salt per gallon, your brine measurements are *unfailingly* 100% accurate.

Hundreds of companies have saved thousands of dollars, have improved the quality of their products by installing the LIXATE Process. Let International's Industrial Division help *you*. Send the coupon below, today.

INTERNATIONAL SALT COMPANY, INC.
INDUSTRIAL DIVISION, Scranton 2, Pa.

I am interested in knowing what the *Lixate* Process can do for MY plant. Please have an International Industrial Engineer contact me as soon as possible. I understand there is no cost, no obligation.

FIRM NAME _____

ADDRESS _____

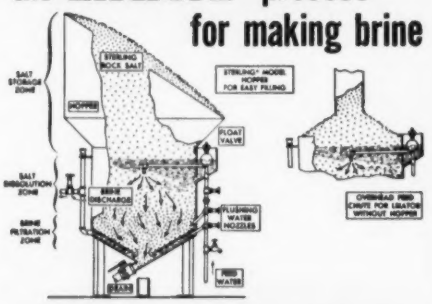
CITY _____ ZONE _____

STATE _____

MY NAME _____

MY TITLE _____

the LIXATE* process for making brine



HOW LIXATOR WORKS

In the dissolution zone—flowing through a bed of Sterling Rock Salt which is continuously replenished by gravity feed, water dissolves salt to form 100% saturated brine. **In the filtration zone**—through use of the *self-filtration* principle *originated by International Salt Company*, the saturated brine is thoroughly filtered through a bed of *un*dissolved rock salt. The rock salt itself filters the brine. Nothing else is needed.

INTERNATIONAL SALT CO., INC.
SCRANTON, PENNSYLVANIA

SALES OFFICES: Atlanta, Ga. • Chicago, Ill. New Orleans, La. • Boston, Mass. • St. Louis, Mo. Newark, N. J. • Buffalo, N. Y. • New York, N. Y. Cincinnati, O. • Philadelphia, Pa. • Pittsburgh, Pa. Richmond, Va. • ENGINEERING OFFICES: Atlanta, Ga. Chicago, Ill. • Buffalo, N. Y. *Reg. U. S. Pat. Off.

No other tomato fungicide has done as well as Du Pont MANZATE®

Controls the major fungous diseases of tomatoes

Now you can get new efficiency in tomato disease control with "Manzate" fungicide. Widespread tests and commercial use also show conclusively that yield and grade have averaged better with "Manzate" than with other tomato fungicides. Here are the reasons why "Manzate" is outstanding:

- Controls anthracnose, early blight, late blight, gray leaf spot (Stemphylium) and Septoria leaf spot—all five diseases!
- No stunting. Provides exceptional disease control without burning the plants.
- Ready to use . . . one chemical ready to mix with water. Every tankful uniform.
- Lengthens picking season; gives you higher yield and greater percentage of No. 1's.

MANZATE rates tops on potatoes, too, for control of both early and late blight.

You can get "Manzate" now in every growing area. For full details write Du Pont, Grasselli Chemicals Dept., Wilmington, Delaware.

On all chemicals always follow directions for application. Where warning or caution statements on use of the product are given, read them carefully.

DU PONT

REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

CROWN CAN

One of America's Largest Can Manufacturers

Superior Quality Cans

Technical Service

Merchandising Assistance

Friendly, Competent Personnel

On-Time Deliveries of the Cans You Want

One of America's Largest Can Manufacturers

CROWN CAN

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CROWN CORK & SEAL COMPANY

PHILADELPHIA, CHICAGO, ORLANDO, NEW YORK, BALTIMORE, ST. LOUIS, BOSTON

APRIL 1953

Food Packer

Vol. 34, No. 4

CANNING • GLASSPACKING • FREEZING

BETWEEN THE LINES

New York State Canners and Freezers Association president Walter W. Wilson (left), Silver Creek Preserving Co., and Association secretary W. H. Sherman (right), look over winning records of John Spencer of Perry Central School Future Farmers made in the sweet corn division of the statewide processed crops growing contest for Future Farmers sponsored by the New York Association.
John won a cash award of $25 for his crop of five acres of corn that yielded 10,536 pounds per acre of fancy quality. Awards were made at the 28th annual fieldmen's conference at Geneva, February 10.

The enlargement of FOOD PACKER's February cover page, featured in the backdrop of the magazine's exhibit at the recent National Canners Convention, goes to Hoopeston, Illinois. The enlargement, obtained at the close of the convention by employees of the Illinois Canning Co., is shown here in a Hoopeston store during Farm-City Day on March 3. Note photograph of Louis Ratzesberger Jr., president of the Illinois Canning Co. and the National Canners Association, in the upper right hand corner of the enlargement. Nearly 1,000 people attended the Farm-City Day celebration in Hoopeston.

Newly elected officers of the National Preservers Association

The following officers for the National Preservers Association were elected during the association's annual meeting held in Chicago recently:

President, Buell H. Bedford, Bedford Products, Dunkirk, N. Y.; vice-presidents: Kyrel Meschter, American Preserve Co., Philadelphia, Pa.; Paul Smucker, J. M. Smucker Co., Orrville, Ohio; and A. H. Blount, Tea Garden Products Co., San Leandro, Calif.; secretary-treasurer, John C. Fosgate, Chester C. Fosgate Co., Orlando, Fla. W. Lowe Walde continues as managing director.

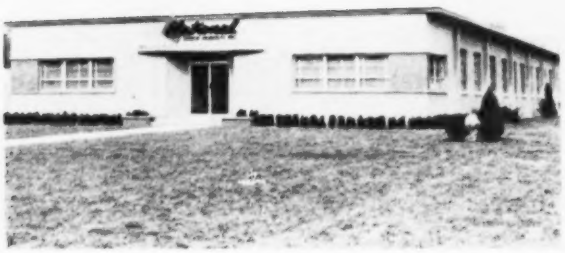
Members of the association's executive committee are: Leo Abrahams, General Preserve Co., Brooklyn N. Y.; T. W. Griggs, Griggs, Cooper Co., St. Paul, Minn.; John Hauser, C. H. Musselman Co., Biglerville, Pa.; Miller Winston, Blanke-Baer Extract & Preserving Co., St. Louis, Mo.; Alvin W. Crain, Whipple Co., Natick, Mass.; J. N. Major Jr., Old Virginia Packing Co., Front Royal, Va.; Samuel Chappell, Bama Co., Birmingham, Ala.; Paul Brown, Squire Dingee Co., Chicago; and R. T. Ryan, Welch Grape Juice Co., Westfield, N. Y.

The two-day session was highlighted by the presentation of the new promotional publicity program of the association. Presented by Ken Hamel, publicity manager of the Glass Container Division of Owens-Illinois Glass Co., the program consists of a year-around promotion of monthly releases of two recipes featuring jams, jellies, preserves, and other fruit spreads.

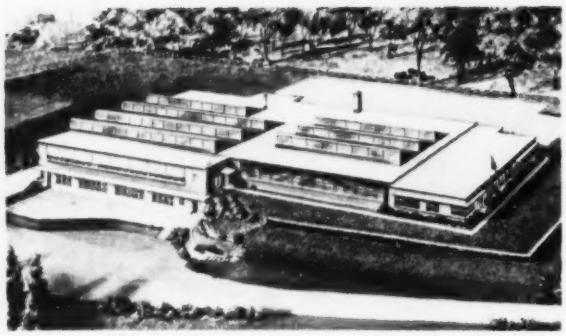
The promotion will be engineered for the Association by Owens-Illinois which has offered the assistance of its own agency, Steve Hannagan & Associates, to handle the details.

American-Marietta Co. gives success secret

"The knack of delegating authority," an article appearing in the January "American Business" magazine, tells the success story of American-Marietta Co., a paint company that started with a capital of five thousand dollars and is now reaching for a hundred million dollars of sales.



Opening of National Starch Products' Alexander research laboratory at Plainfield, N. J. marks the latest step in the company's two million dollar expansion program. Company now has eight plants, four in the U. S., two in Canada, one in England, and one in Holland.



Home of the Foxboro Company, Ltd., at Montreal, Canada. New extension, at the left, provides 23,000 square feet of additional space for the production of Foxboro instruments. Also new are a cafeteria for employees and a training school section for customers' men.

MR. GIMLIN

MR. ISOM

Utah Canners Assn. elects new officers

J. F. Gimlin, Jr., manager of the Woods Cross Canning Co., Woods Cross, Utah, was elected president of the Utah Canners Association in January. D. J. Isom, general manager of Hunt Foods, Inc., Salt Lake City, was named vice-president. Harvey F. Cahill, Ogden, Utah, was re-elected secretary-treasurer. Directors are Gimlin, Isom, and G. A. Rounds, Thomas D. Dee, E. R. Blackinton, W. R. Eddington, and Wesley Jense.

NCA resolutions

At the recent convention of the National Canners Association, a resolution was unanimously passed whereby the canning industry approves of the immediate enactment of legislation restoring the authority to enter processing factories for the purpose of making the limited inspection authorized by the Federal Food, Drug, and Cosmetic Act.

The Association officially mourned by resolution the following members of the canning industry who died during 1952:

Carroll Lindsey; Frank Gerber; E. C. Auchter; H. L. Auckerman; Frank M. Ball; R. A. Burns; William Christel; A. E. Cooddington; Dr. Fred F. Fitzgerald; V. A. Friend; S. G. Gorsline; Frank Hamachek Jr.; Col. Isaac M. Hamilton; Prince E. Harris; William Kinnaird; Ralph Polk Sr.; Ole Salthe; J. W. Steinhart; Mrs. Edna S. Trego; Norman L. Waggoner; W. G. Winterbottom; and F. Hall Wrightson.

Gov. Boggs honors top tomato grower in Delaware

Delaware's Ten-Ton Tomato Club awards were presented by Governor J. Caleb Boggs during the Tri-State Packers' Association's annual canners school held February 9-10 at the University of Delaware at Newark. Left to right are Governor Boggs; Frederick W. Haas, Middletown, Del., top tomato grower in Class 1 (eight acres and up); Calvin L. Skinner, secretary-treasurer of Tri-State; and Robert F. Stevens, secretary of the club and extension service horticulturist at the University of Delaware, which sponsors the annual competition.

More than 300 canners, freezers and fieldmen attended the canners school, with 70 university, federal and industrial experts on the "faculty" to present the latest research and developments in growing better crops for processing in Delaware, Maryland and New Jersey.

Hunt Foods plant wins safety award

In recognition of a record of 1,068,918 man-hours operated during 1952 without a preventable lost-time accident, Hunt Foods' Fullerton, Calif. plant was awarded the company's annual "no-accident safety trophy," President Frederick R. Weisman announced. The award was presented to Earl Cassidy, superintendent of the plant, at a safety award dinner held at Hayward, Calif.

The line up of Lenten canned food promotion is discussed by Harold H. Jaeger (left) marketing director of the Can Manufacturers Institute, and Gordon Ellis, merchandising manager of the Pet Milk Co.

Lenten promotion planned by CMI and canner groups

A giant Lenten promotion built on a recipe named "ripe olive tuna ring" and backed by industry groups, features a 60 million-message advertising program, 100 million-message consumer publicity program and point of sale merchandising tie-ins by 105,000 retail stores. Participating groups are United States Steel Corp., the Olive Advisory Board, Pet Milk Co., Associated Independent Canners, Tuna Research Foundation, and Can Manufacturers Institute.

Northwest Canners Assn. holds annual convention

The 39th annual convention of the Northwest Canners Association, held January 19-20 in Seattle, featured raw product development and canning problems. More than 500 samples of fruit and vegetables were displayed and judged. Attendance was estimated at 900 by Ed Pitkin, president of the association.

Highlighting the convention was the address, "Is the future ours?" by E. L. Blaine, Jr., vice-president and a director of the Peoples National Bank of Washington. Bradley Jones, Pictsweet Foods, Mt. Vernon, Wash., led a round table discussion of labor management problems for executive personnel.

Restaurant management course to be offered

A curriculum in restaurant management has been approved by the state Board of Regents to be offered in the dietetics and institutional management department at Kansas State College in Manhattan, President James A. McCain announced. Dean Margaret Justin said the curriculum has been approved by restaurant and hotel managers.

New Link-Belt plant at Colmar, Pa. is designed for efficiency

Manufacture of conveying and processing machinery has been put on a straight-line production basis in Link-Belt Co.'s new plant at Colmar, Pa., 25 miles north of Philadelphia. The 300,000-square foot plant, built by The Austin Co., is Link-Belt's 17th.

Engineering activities occupy the entire second floor of the face brick office building at the front of the plant. It has been designed to permit expansion to double the present size of the manufacturing area, company officials say. A complete sewage treatment plant is located at the back of the 43-acre site.

Willard Huyck, president of the Aseptic-Thermo Indicator Co. (left), describes canning methods to TV star Al Jarvis.

Canning industry spotlighted on West Coast TV show

The wide appeal of food preparation information for the homemaker was again proved recently when the canning industry was spotlighted on the Al Jarvis show, emanating from KECA-TV, Los Angeles. Canning methods were discussed and demonstrated, a miniature retort-basket being used by Mr. Jarvis' guest, Willard Huyck, president of the Aseptic-Thermo Indicator Co., Los Angeles. One interesting aftermath of the show, as gleaned from reader's letters, was that a majority of homemakers (and husbands!) is not aware that most canned foods actually are cooked inside the can.

Van Camp Sea Food Co. appoints brokers

J. Thomas Trixler (center) and Basil Holley (right) congratulate each other on their appointment as brokers for Van Camp Sea Food Co., Inc., while S. P. Trixler grins approval. The Trixler brothers are partners and have the Oregon and southwest Washington territory with offices in Portland.

Holley covers Utah, Idaho, western Wyoming and eastern Nevada with headquarters in Salt Lake City. Previously both were district managers for Van Camp. Their organizations are known as the Trixler Brokerage Co. and the Holley Brokerage Co.

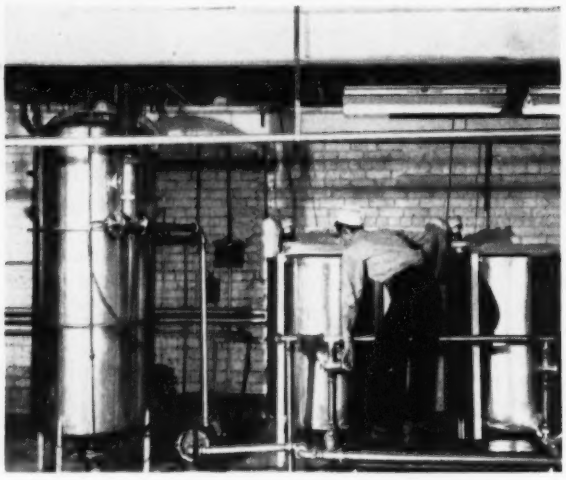
Clayton Mfg. Co. holds annual conference

Shaping plans for expanded distribution, sales and service for the Clayton steam generator was the principal item of business as key executives of the steam generator division of the Clayton Mfg. Co. met with J. A. Cortright, general sales manager, in an annual conference held in January at the company's El Monte, Calif. headquarters.

Participating in the conference with Cortright were Ken Darracq, regional sales manager, north Atlantic states; H. M. Kirkby, sales promotion manager, steam generator division; John J. Billman, regional sales manager, western states; Franz Romeis, regional sales manager, midwestern states; Elwood Moon, assistant to the general sales manager; and Neal Ballingall, regional sales manager, east north central states.

Walter J. Kemp (center), president of the Kemp Brothers Packing Co., Inc., is shown here with George O. Robey (left), vice-president, and John S. Kemp (right), Mr. Kemp's son and a member of the company.

Kemp's salting room. Salt is added to the juice in the stainless steel tanks (right.) Deaerator (left) extracts remaining air from the juice. Kemp officials say that the deaerator is one of the best pieces of equipment in the canning plant.



Kemp Brothers Packing Co.— Pioneer tomato juice packer

Efficiency and technology have paced the widespread acceptance of tomato juice— This Indiana canner is credited with developing the product 25 years ago

BILL SCHAAL, Editor

TOMATO JUICE AS WE KNOW IT today —the juice of the whole tomato, including the red-ripe non-separating solids and nothing added except salt —celebrates its 25th anniversary this year.

Some experimentation with a strained juice had been conducted in the early 1920's, but for one reason or another, these products did not receive widespread acceptance.

In 1924, the three Kemp brothers, Ralph, Walter and Charles, started investigating the possibilities of producing a non-separating, vitamin-rich tomato juice that would be suitable for infant feeding. They were spurred on by an Indianapolis pediatrician who envisioned tremendous possibilities in a suitable ready-to-use product for babies.

In 1928, the Kemp brothers succeeding in making a non-separating product and were granted a patent on their juice-making procedure. That fall they started advertising their product in children's magazines of national circulation.

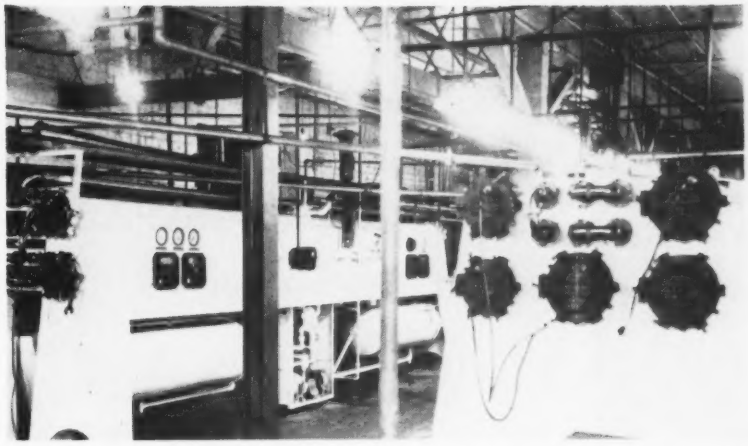
So encouraging was the response that the brothers tested the adult appeal of their tomato juice, and it wasn't long until people of all ages were consuming and enjoying it. Thus as we look back today, we see that it was mainly through the efforts of these three enterprising men that an important phase of the food processing industry was started. In 1929, the year following the development, only 119,000 cases of tomato juice were packed. By 1951, however, production stood at well over 32,000,000 cases. In the comparative short span of years, tomato juice has established itself throughout the land and has become a popular beverage as well as a nutritious ingredient in many tasty dishes.

Industry leaders

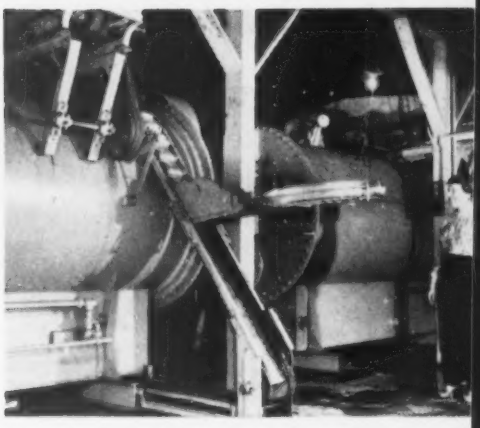
Today, in Frankfort and Kempton, Indiana, Kemp Brothers Packing Co., Inc., operates two high-speed and efficient tomato juice plants. Walter Kemp, the surviving brother and a leading figure in the tomato industry in Indiana and the nation, is president of the company. George O. Robey, past president of the Indiana Canners Association and also well-known in canning circles, is vice-president. John Kemp, Walter's son, is active in the organization. Robert L. McClure, Mr. Kemp's son-in-law, is secretary-treasurer of the company.

When the company started making tomato juice, the Kemp men decided to specialize in a premium product and to concentrate on only a few markets. Consequently, they introduced their now famous Sun-Rayed label to New York City. This plan proved successful through the years and Sun-Rayed juice is now, and has been for a long time, the consistent leader in that large market. Catsup and whole tomatoes are also packed, largely for the institutional trade.

The Frankfort plant is engineered to handle 40 tons of raw tomatoes per hour. An automatic timing device makes it easy to vary this rate depending on the labor supply and quality of incoming tomatoes. A signal system is installed at the unloading



The installation of the twin high-volume pasteurizers in the Kemp plant at Frankfort. Both machines are equipped with Taylor automatic controls to insure precise temperature control.



Berlin Chapman cooker-cooler unit has been converted into continuous cooler for 46-ounce cans. Cold water in one unit, warm water in the other cools tomato juice properly and quickly.

dock so when a bell rings, a hamper of tomatoes is dumped into one of the three washer-conveyor flumes that carry tomatoes into the plant. The bell timing can increase or decrease the flow of tomatoes as desired. The covered unloading sheds are sprayed periodically to control insects. In addition, if flies and gnats are troublesome, each incoming load is sprayed with a weak solution of pyrethrum. "These procedures give effective insect control," Robey says.

Cover photograph

One of the three 85-foot sorting tables in the Kemp plant. Smaller side belt handles only tomatoes that need trimming.

Incoming tomatoes fall into spray washers that knock off any dirt or rot that may have survived the outside flume conveyors. The tomatoes then fall onto one of three 85-foot long sorting tables. Tomatoes that traverse two of the belts are made into juice, and the other belt serves the catsup and canned tomato line. Volume of these tables has been speeded up by installing a smaller side belt on each that handles only tomatoes that need trimming.

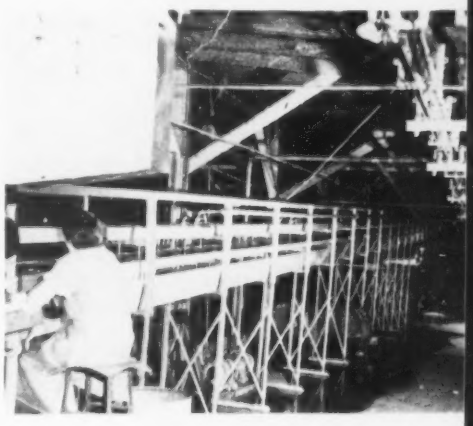
The trimmed and sorted fruit flows from the tables into a Chisholm-Ryder chopper-pump unit that chops it into small pieces and then pumps it to the pre-heating side of the Chisholm-Ryder pasteurizers. Robey explains that pre-heating gives a higher rate of juice recovery and a higher quality juice than where the tomatoes are not pre-heated. The same pumping operation takes the tomatoes into the Chisholm-Ryder Model J extractors and finishers where seeds, skins, and hard portions are taken out and sent to the waste plant. The juice now flows into a stainless steel pit-type tank from where it is pumped to a 500-gallon stainless steel feed tank. The latter tank was made at the Kemp plant.

Next, the juice falls by gravity from this tank into two Cherry-Burrell homogenizers where the fibers are broken up into such small fragments that they remain in permanent suspension in the serum. The same pumping action that takes the juice through the homogenizers takes it to the second floor to the three 250-gallon Berlin Chapman salting tanks. Here, salt (Diamond Crystal) is added to the juice; nothing else. The salted juice now goes into the Chain Belt deaerator where the remaining air is exhausted from it.

Praises deaerator

Robey praises this deaerator as one of the most valuable pieces of equipment in the plant. He says it helps minimize oxidation of ascorbic acid (vitamin C) and red color in the high-temperature sterilization process which follows. Also, it greatly minimizes foam that is normally present in the filler bowls.

After deaeration, the juice is pumped through a Dean-Hill pump to the first floor stainless steel storage tanks that supply the high-temperature pasteurizers. Then, Waukesha pumps take the juice through the pasteurizers in two stages: First, the juice is heated to 210° F.; second the heat is stepped up to 256° and is passed through a series of tubes which hold the juice at the 256° temperature. The juice then goes to the cooling portion of the unit that cools it down to 208°—the filling temperature.



This Kemp-made spinner cools 13-ounce cans of tomato juice. Capacity is 16,800 cans per hour.

This line is so arranged that if the fillers are shut down temporarily, the juice is re-routed back through the pasteurizers. This insures proper pasteurization of all the juice. The juice is pumped by the same pumping operation to the two Ayars 12-pocket fillers that handle 13-ounce cans, a new Ayars machine that fills 46-ounce cans, or the Ayars that fills No. 10 cans. American Can Co. cans are used exclusively.

No. 10 cans of juice are air-cooled; so few of them are packed that the company decided it wouldn't pay to

(Continued on page 55)

Fig. 1—General view of field plots showing each of seven vegetables planted across the plots treated with various insecticides.

Flavor problems and other effects of insecticidal applications to vegetables grown for canning

Recent attention has been focused on insecticidal effect on flavor, odor, and other qualities of canning crops; here's a resume of Wisconsin's research project

K. G. WECKEL
and
R. K. CHAPMAN
University of Wisconsin

THE CONSUMING PUBLIC at the present time demands produce of top quality which is entirely free from insects or insect injuries. The use of many of the newer insecticides, particularly those of a persistent nature, enables the grower to produce consistently high yields of practically insect-free vegetables. In spite of the excellent insect control, however, the application of these materials may produce secondary effects which tend to increase rather than decrease the problems of the producer and processor in their effort to maintain high purity and quality standards.

The persistent residues, required for the most efficient insect control, may leave toxic amounts of the insecticide on the edible portions of the vegetables or may be absorbed by the plants in quantities considered harmful to human health by various agencies. In addition applications of insecticides in the soil, on its surface or on the plant foliage may reduce or delay seed germination of certain vegetables or affect the later growth and yield of the plants.

More recently, considerable attention has been focused on the effect of insecticides on the flavor, odor, texture, color, and other qualities of fruits or vegetables in their raw, cooked, or canned state. The use of BHC on vegetable crops has dramatically emphasized the problems of off-flavor and smell as well as phytotoxicity effects on plants and the residue problems connected with the use of new agricultural chemicals on crops. This use of BHC may be largely responsible for the greater and greater emphasis being placed on the flavor, quality, and other effects of agricultural chemicals on fruits and vegetables by the consuming public, the chemical industry, the producer, the processor, and the various federal and state agencies.

Obviously it takes many years to study and accumulate data on some of these points and a rather extensive program has therefore been set up in Wisconsin to evaluate the effect of insecticidal applications on vegetables. A major part of the study concerns the evaluation of the effect of insecticide applications on the flavor of fresh or processed vegetables. In this connection several factors which are not specifically mentioned above but must be considered as important in possible off-flavor effects are as follows:

1. Rate and method of application of the insecticide, e.g., whether applied to soil or foliage.

2. Time and number of applications, e.g., whether applied early or late in the season.

3. Climatic conditions, e.g., rain which would particularly affect foliage applications.

Table 1.—Levels and method of application of various insecticides to beets, carrots, onions, cabbage, rutabagas, snap beans, potatoes, and spinach.*

Insecticide	Application in lbs. per acre of actual material in soil	on foliage
Aldrin	3 and 9	¼ and ½
Dieldrin	3 and 9	¼ and ½
Chlordane	5 and 15	1 and 3
Heptachlor	3 and 9	¼ and ½
Lindane	3 and 9	¼ and ½
Toxaphene	7 and 21	1½ and 4½

* Foliage treatments only on spinach. In addition to the above, foliage applications were made to peas with malathon at the rate of one and two pounds per acre.

Table 2.—Schedule of treatments to be given vegetables prior to tasting.

Vegetable	Time and form of test
beets	canned fresh, canned 9 mos.
carrots	fresh cooked, canned 9 mos.
onions	fresh cooked, canned 9 mos.
cabbage	fresh cooked
rutabagas	fresh cooked, 6 mos. cooked
snap beans	fresh cooked, canned fresh, 9 mos.
potatoes	fresh cooked, canned fresh, 6 mos., 9 mos.
spinach	canned fresh, 9 mos.
peas	raw, canned fresh, 9 mos.
sweet potatoes	fresh cooked, canned fresh, 6 mos., 9 mos.

Fig. 2—View of the pilot food processing laboratory in food technology section of Dairy and Food Industries Dept., University of Wisconsin.

Fig. 3—View of the taste-test panel room in operation at the University of Wisconsin. Selection of panel members is based not necessarily on a high acuity for respective insecticides, but more especially on freedom from taste blindness to the presence of the chemical, and in consistency in classifying levels of concentration of chemicals.

Tri Series No. _____ Product _____

Fresh 0
Cooked 6
Canned 9

Date _____

Taster _____

Can you detect a difference in taste between the 3 samples? Circle answer — Yes / No

Sample marking			
If answer is Yes, place an X under the identical samples			
Indicate rating of the samples			
Edible, acceptable for eating: Much better			
Moderately better			
Only slightly better			
Normal, typical			
Only slightly less desirable			
Moderately less desirable			
Much less desirable			
Objectionable, inedible			

Indicate nature of flavor of samples

1.	Normal, typical				
2.	Acidic	9.	Medicinal	16.	Salty
3.	Biting	10.	Metallic	17.	Spicy
4.	Bitter	11.	Musty	18.	Sweet
5.	Chemical	12.	Oily	19.	Tinny
6.	Earthy	13.	Putrid	20.	Woody
7.	Foul	14.	Puckery	21.	Other _____
8.	Flat	15.	Rancid	22.	Other _____
				23.	Other _____

Table 3.—The record form used in the flavor-evaluation tests.

4. The persistence of insecticide residues in the soil from year to year and from one crop to the next including possible break-down products.

5. Maturity of the vegetable at harvest as affected by insect control or direct effect of the insecticide on the plant growth.

6. Manner of processing.

7. Interval of storage prior to processing or use.

8. Interval of storage as processed or canned vegetable.

In order to take into consideration as many of these factors as possible, a 3 to 5-year program was planned in which a representative series of vegetable crops was treated with various insecticides by different methods and at various rates as shown in Table 1.

As indicated, beets, carrots, onions, cabbage, rutabagas, beans, potatoes and spinach were each subjected to two levels of application in the soil and two on the foliage of each of the following insecticides: aldrin, dieldrin, chlordane, heptachlor, lindane, and toxaphene. The lower rate of application in each case represents a more or less normal treatment and the higher one is three times that rate to determine the effect of excessive dosages. It will be noticed that the insecticides are for the most part those which can be used in the soil as well as on the foliage as off-flavor is more often associated with this type of pesticide.

All of the insecticides were applied as dusts to replicated plots 25 feet x 40 feet in size, and permanently marked so that they could be followed from year to year. The soil applications were applied to the soil surface and disced in to a depth of about three inches.

Vegetables were planted across each of the plots as shown in Figure 1 so that one 40-foot row of each of the seven vegetables was present in each plot.

Surface applications were made about one month after the vegetables were up and repeated about one month before harvest.

Fifty to one hundred pound aggregate samples of each vegetable were harvested in early October and transferred to cooler storage at 50° F., and there held until flavor examination is made, or processed and subsequently examined following various periods of storage.

In Table 2 is presented the schedule of treatments being given the various vegetables prior to evaluation for effect of the pesticide on their flavor. The majority of the group of vegetables is being examined when freshly cooked, and after being canned.

Methods of heat processing vegetables

The method used in preparing the cooked vegetables consists in placing the necessary quantities of trimmed, peeled or otherwise prepared sliced or diced vegetables in pans which are placed in steam retorts. In all instances these vegetables are steamed in their respective juices at 215° F.

for 30 minutes. This method enables reasonable uniformity of cook of both the control, untreated vegetable, and its treated counterpart. The steam-cooked vegetables are then separately comminuted uniformly to puree form in an Osterizer blender. The pureed vegetable is then transferred to the taste room where flavor evaluation is made by the taste panel.

The method used in preparing the canned vegetables is in conformity with usual commercial practice[1]. In Figure 2 is shown the food technology processing laboratory at the Department of Dairy and Food Industries at the University of Wisconsin.

Require special handling

Several matters are of concern in the processing of vegetables for flavor evaluation purposes. Care must be exercised, in the washing of the vegetables, that there be no carry-over of insecticide residue from one lot to another. It is necessary, then, to wash each lot of vegetables separately, in new soak or spray wash treatments. The same is true also in the water blanching of vegetables such as onions, where accumulation of residue could occur in the handling of a sequence of lots of a vegetable. Normally brine, either as salt or salt-sugar mixtures, is used in the packing of canned vegetables. In the studies herein described the vegetables have been water packed. The decision to use a water pack method only is based on the desirability of avoiding possible variations in levels of sweetness or saltiness of control untreated and treated lots. Such variations might conceivably be more apparent and misleading to taste panel participants than differences due to the effect of the pesticide. It is conceivable also that brines may have either an augmenting or masking effect on pesticide flavor effects. The processed canned goods are stored at cooler temperature pending their examination as freshly canned, and at room temperature thereafter for storage period tests.

Organoleptic examination procedure

The taste panel engaged to do the flavor examination work consists of some 65 individuals selected from a total of 125 candidates on the basis of their ability to identify the presence of the insecticides in solutions or mixtures in a range of concentrations. The selection of the individuals was based not necessarily on a high acuity for the respective insecticides, but more especially on freedom from taste blindness to the presence of the chemical, and in consistency in classifying the various levels of concentration of the chemicals in solution.

In the panel currently in use, the age range varies from 20 to 65, two-thirds of the group being women. The panel members are paid an hourly wage.

In the taste work, the triangulation procedure is used. Each panel member is given, at the beginning of each test series, a sample of the untreated control vegetable for flavor examination. The taster is asked to fix the characteristics of this flavor in mind, and to classify it as the "normal" flavor character of that vegetable. This identified sample is then removed. In the triangulation procedure proper, the taster is given three coded beakers containing either two untreated and one treated vegetable, or the converse, two treated and one untreated vegetable. It is possible to present six orders of arrangement of the beakers in the triangulation procedure. The taster is requested to ascertain whether a difference in flavor between any of the three samples in the beakers can be noted. If so, the taster is then asked to identify the two which are alike. The responses to such evaluation are then subject to statistical evaluation for significance.

The record card used for such flavor evaluation is shown in Table 3. In addition to classifying the samples on the basis of flavor, the taster is asked to classify the character of the flavor of the three samples in terms of the "normal" previously established by direct examination. By this tabulation some idea can be obtained of the beneficial as well as the depreciative effects of the pesticide on the vegetable. An opportunity is given the taster to identify, or characterize, a flavor which has been observed.

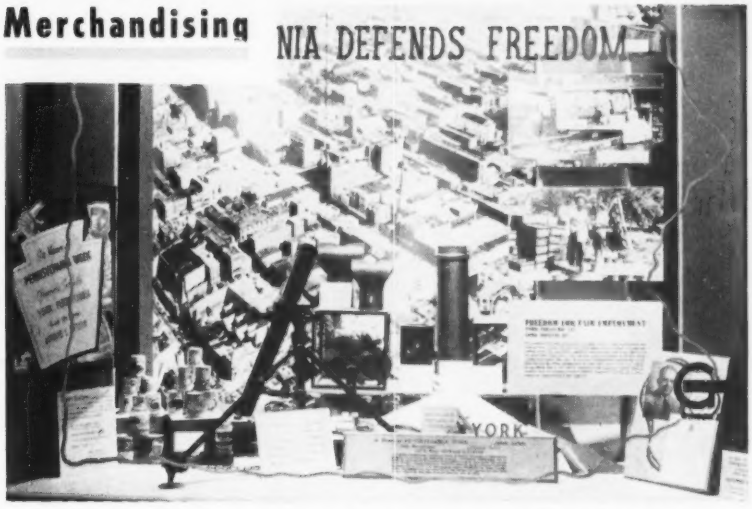
There are a number of "operating conditions" which must be recognized in the satisfactory management of a flavor evaluation study of vegetables by selected panels. Psychologically, it is natural for each participant to endeavor in every way possible to determine which samples represent the treated vegetables. Thus, if slight differences in color between samples should occur, the basis of identification quite likely will be on this basis rather than on flavor. In the taste panel room, then, superimposed colored lights tend to mask out slight differences in color of the vegetables. In our taste panel room, this is done by layers of colored cellophane, either amber, red, or green, covering fluorescent lights.

Description of booths

In order that the appraisals made by the various participants are done independently, partitions to form booths for desk work spaces are used as shown in Figure 3. The tasting booths are painted flat grey. The University of Wisconsin panel booths are equipped with dental pedestals for the convenience of the tasters. Mental concentration while tasting is essential to good evaluation. For this reason conversation, and this limited to a whisper, is kept to a minimum when several are engaged in tasting work. In order that differences in temperature of vegetable samples do not influence the tasters, all products are served at room temperature. The quantity of each sample provided to the taster is limited to approximately five grams. The air in the taste room must be clean, fresh, and properly tempered. Preparation of the vegetables necessarily must be in quarters other than that used for tasting. Most individuals have a preference for certain numbers, or colors. The code marks given to the triangulation samples must be such, or provided in sequence order, that the taster does not subconsciously select preference on the basis of the numbers influence rather than taste value. The method used in the Wisconsin tests consists of using letters, numbers, and Greek symbols in altered sequence.

One of the major problems in taste evaluation is the maintaining of interest in the project by the panel members. It requires from one to one and one-half hours time in the appraisal of a given series of product, allowing for necessary taste rest or recovery intervals between samples. This is, in fact, very tedious, and monotonous work, especially because the workers are constantly dealing with unknowns; discrete intervals must be used to retain the participants' interest. A sizable work panel from which to draw is also necessary because of the interference of personal interests, illness and so forth. The supervision of one attendant is necessary for each two participants in a taste panel.

[1]Manual for Institutional Canning. Research Division, American Can Co.



A Philadelphia window showing produce of York County industry. Canned foods are shown in the lower left hand corner. A picture of cherry harvest for canning is in right center.

All-out canner participation in Pennsylvania Week proved that public relations is just "human relations plus good contacts"

Canned food promotion provided the canning industry opportunities to meet the press, retailers, and community leaders, and to win friends and influence people

CHARLES W. YORK
Executive Secretary of the Pennsylvania Canners Association

TEXAS HAS LONG BEEN known for blowing it's horn. Such a good job has been done of selling what many Easteners feel is a vast expanse of sagebrush and sand, that Pennsylvanians have created a statewide, week-long celebration to tell the world the wonders and beauties of the Keystone State.

October 13 through 18, 1952, was set aside for the seventh annual PENNSYLVANIA WEEK celebration. Civic and business leaders from all communities in the state organized to bring the event to the citizens. Over 5,000 persons served on active committees in planning industrial shows, open houses, parades, banquets, forums, business-education days, intercommunity visits, window displays, and many other activities designed to recognize and publicize the advantages of home products and of living in the great state of Pennsylvania.

PENNSYLVANIA WEEK was designed to develop pride in all things Pennsylvanian, and to provide an opportunity for Pennsylvanians to boast and brag about their handiwork and their communities. Pennsylvania canners had participated in the past programs, but in 1952, they went all out to tell the story of their industry: How big it is; the high quality products they pack; the number of fellow citizens employed; how important the canning industry is to the farmer in marketing his crop; and how important the canner and his product are to the modern housewife.

Committee planned program

To do this, the sales and merchandising committee of the Pennsylvania Canners Association under the chairmanship of Edward J. Laucks, sales manager of the Hungerford Packing Company, Inc., Hungerford, Pa., planned the program early last spring. From then until October, the Association concentrated on coordinating the program with PENNSYLVANIA WEEK leaders and events, with grocery leaders, and with member canners. What resulted was one of the most successful promotions in the history of the Association.

To utilize all possible facilities to promote and emphasize canned foods, activities were developed in three phases: A retail grocer and food purveyor promotion; a publicity program with newspapers, radio, and television; and a program of community participation on the part of member canners.

Retail grocers and their suppliers cooperated by featuring Pennsylvania foods throughout the week. Their ads tied in with the PENNSYLVANIA WEEK theme. Grocers purchased and used store kits which included window banners, wire hangers, shelf talkers, pricing arrows, etc. The Canners Association, with the advice of grocery

(Continued on page 68)

Mushroom canners on TV in Philadelphia. Left to right: Both Park, Brandywine Mushroom Corp.; Don K. Weltmer, Brandywine; Val Catena, Superior Canning Co.; George Lambert, Keystone Mushroom Co., Inc.; Howard Green, Concord Foods, Inc.; Alfred Fortugno, Lescarboura Mushroom Co.

SWEEPING THE PICKLE FIELD..

the SNAP CAP

In processing... *complete safety, no venting, no losses*

This is the closure that *snaps* shut . . . the unique cap that closes with a click. On pickles this Snap Cap has a 3-way advantage *so powerful that it gives packers the most efficient and most convenient package in pickle packaging history.*

First, in processing—the Snap Cap insures smooth, trouble-free production and major economies. It holds on against internal pressures so well that packages NEVER blow during processing.

With the Snap Cap there's never any venting or sucking either. Even under the most severe strains of high temperature processing, the cap makes an absolute seal. Seepage under pressure (so common with other types of caps) just can't occur when there's a Vapor-Vacuum Snap Cap on the package. The grip of the cap, plus the cushioning effect of the vacuum, makes *every* cap hold, no matter how hard the going may be.

In opening... *never too tight, never too loose*

Next among the advantages of the Snap Cap is its uniform ease of opening. Despite the firmness of the grip which holds the cap on the package during processing, *this cap opens very easily.* While highly resistant to the internal lifting forces generated during processing, it answers readily to the touch of any opening instrument.

Here, again, comparison with other types of closures shows the Snap Cap has all the advantage. There's never a "frozen" package, never a cap that's too tight or too loose. The opening action is completely uniform—and uniformly easy. And there are no messy packages, no returns, when the Vapor-Vacuum Snap Cap is on the job!

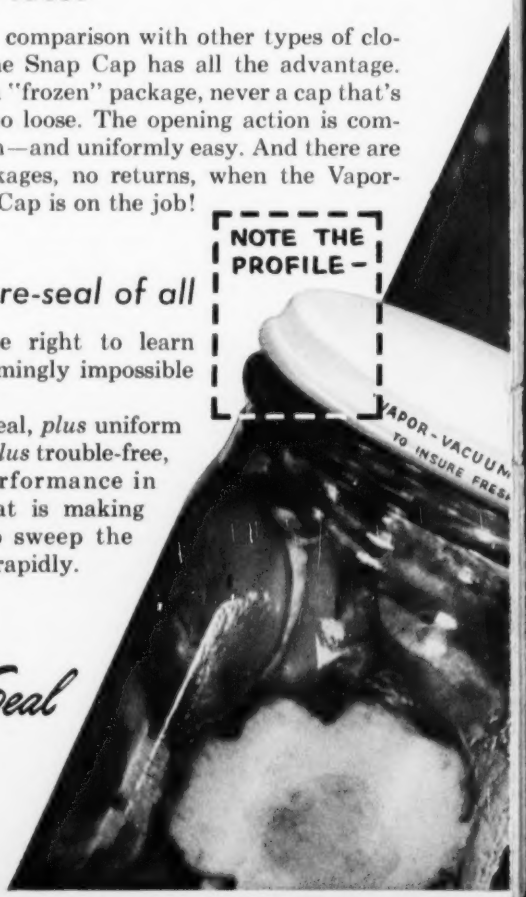
In re-sealing... *SNAP ACTION, finest re-seal of all*

The audible "click" of the Snap Cap, when it's re-sealed, performs a very real service. Each time the cap goes back onto the package, this "click" signals a tight re-seal.

The cap snaps into position so positively, so easily, that each re-seal is a joy to the user! *There just isn't anything else like it!*

Most amazing of all, this tight re-seal is effective *even when the cap is badly distorted.* Study the illustrations at the right to learn about this seemingly impossible achievement.

It's this re-seal, *plus* uniform opening ease, *plus* trouble-free, loss-proof performance in processing, that is making the Snap Cap sweep the pickle field so rapidly.



"VAPOR-VACUUM" Seal and Re-Seal

PRODUCT OF
WHITE CAP COMPANY

SNAP!
SEALS AND RE-SEALS WITH AN AUDIBLE CLICK
"VAPOR-VACUUM" SEALED TO INSURE FRESHNESS
SNAP!
what other cap can do THIS?
First, distort a Vapor-Vacuum Snap Cap as much as you like. Then bend it back into shape. Then press it back onto the jar and note what happens:
First, the cap clicks right down to a re-seal, just as if it hadn't been distorted. Second, it holds on so well you can lift the jar by the cap. Third, it re-seals so tight that nothing leaks out, even when you turn the re-sealed jar upside down!
Try this test yourself! Pick up the re-sealed jar by the cap! Turn it head down! *The cap holds —and not a drop leaks out!*
"VAPOR-VACUUM" SEALED TO INSURE FRESHNESS

Food freezers to launch five-year nutrition research program on frozen foods; Spiegl elected president at Chicago convention

The following officers of the National Association of Frozen Food Packers were elected at the association's annual convention held March 1-4 in Chicago:

President, M. K. Spiegl, Spiegl Farms, Salinas, Calif.; first vice-president, John Baxter, Snow Flake Canning Co., Brunswick, Maine; second vice-president, G. O. Bailey, Birds Eye Div., General Foods Corp., New York City; secretary-manager (re-elected), L. S. Martin, Washington, D. C.; and assistant secretary, Keith O. Burr, Washington, D. C.

Newly elected board of directors are: Wm. Volkmann, Reynolds Bros., Sturgeon Bay, Wis.; Francis Wilcox, Sunkist Growers, Ontario, Calif.; Sterling Doughty Jr., Sacramento Frosted Foods, Sacramento, Calif.; T. V. Delson, Southland Frozen Foods, New York City; F. G. Lamb, Lamb-Weston, Inc., Portland, Ore.; and E. J. Watson, Pictsweet Foods, Inc., Mt. Vernon, Wash.

Five-year nutrition research program started by NAFFP

At the 1953 convention the board of directors of the National Association of Frozen Food Packers announced that sufficient funds have been assured to launch the first phase of the five-year nutrition research program of the association, and research procedures and plans will be put into effect immediately. It is expected that a total of $200,000 will eventually be spent.

Harold J. Humphrey of New York City, research manager of Birds Eye Division, General Foods Corp., and head of the association's nutrition administration committee, said the program will be launched through grants-in-aid to universities well recognized in the field of nutrition and will be carried on over a five-year period.

Procedure will be as follows:

About 35,000 regular production packages, as samples, based on a percentage appraisal of the average 1950-51 production and covering some 45 frozen fruits, juices and vegetables will be procured by random selection methods, as applied throughout the entire processing season in all regions of the country during 1953 and 1954. Such representative sampling will give data that are truly national in character.

Each lot of samples will be tested for 21 nutritionally significant values. These include vitamins A (carotenes in vegetables), thiamine (B_1), riboflavin (B_2), niacin, pyriodoxine (B_6), ascorbic acid (C), panthothenic acid and folic acid; and protein, total solids, fat, ash, carbohydrate, energy, crude fiber, calcium, iron, sodium, potassium, phosphorus, and magnesium.

Contemplated plans for 1954 through 1957 include the second phase, or additional studies on storage and simulated commercial distribution; the retention of nutrients during both specific processing steps and over-all processing operations; on cooking techniques for consumer and institutional-size packages; with the ultimate purpose of formulating recommendations designed to provide maximum retention of nutrients in each and every stage in the production and use of commercially frozen foods.

Funds for the study are coming from allied suppliers and the Association. In addition to Humphrey, others in charge of the program are Dr. K. G. Dykstra, Albion, N. Y., research manager of Birds Eye laboratories, who is head of the packers' nutrition research subcommittee; and H. P. Schmitt, Washington, D. C., administrative assistant of the Association's Research and Standards Department.

The fund-raising subcommittee is headed by E. J. Watson of Mt. Vernon, Wash., executive vice president of Pictsweet Foods, Inc.; and the vice chairman is Ralph Dulany of Fruitland, Md., president of John H. Dulany and Son, Inc.

For the purposes of obtaining representative samples for the research program the nation will be divided into seventeen areas with an industry member supervising.

All samples will be divested of packer identification before testing. For example, frozen peas from approximately 50 individual packers will be collected for analysis of vitamins, minerals and proximate components. Only agencies that are recognized by nutrition scientists will be selected for the research.

A series of published reports will show the range and average of nutritive values of frozen foods. All information will be furnished to home economists, teachers, dieticians, physicians, dentists and military officials.

Humphrey said negotiations are currently under way to launch the program at the Wisconsin Alumni Research Foundation, located at the University of Wisconsin. He said leading nutritionists indicate there is every reason to believe that the research program during the next five years will establish frozen foods as an outstanding source of vitamins, minerals and other components of dietary importance. All agencies involved in the study will publish papers on their findings.

C. L. Snavely of Lancaster, Pa., president of the Consumers Packing Company, who was chairman of the convention committee, said during the last five years the annual pack of frozen fruits, juices and vegetables has increased 220 percent. He said this upward trend is expected to continue and will be reinforced by the widespread dissemination of factual information from the research program.

The program, he said, will provide homemakers with important data in planning wholesome diets featuring frozen foods. It will also aid professional nutritionists who are actively searching for this information.

During the convention, the association presented an honorary life membership in the association to E. J. Gibson of New York City, formerly with Birds Eye, for his efforts and energy in helping form NAFFP. Gibson, now on government assignment for the Mutual Security Agency, was not present. A plaque symbolic of the life membership was accepted in his behalf by G. O. Bailey.

Informative panel meetings covered trends in packaging, cost factors in production, transportation rates, costs of equipment, and technical problems at the convention. Approximately 2,000 frozen food packers, frozen food distributors, food brokers, and representatives of refrigerated warehouses were in attendance.

NEW WEED KILLER ALANAP*-I

Drastically cuts cost of hand weeding of vine crops

THE United States Rubber Company's Naugatuck Chemical Division has now developed a remarkably effective pre-emergence herbicide which kills weeds as they start to sprout or before they emerge from the ground. Named Alanap-I, it effectively controls such weeds as pigweed, purslane, lambsquarter, quickweed, ragweed, foxtail and crabgrass.

Presently available to growers, Alanap-I considerably reduces the cost of tedious hand weeding and crop cultivation. One grower reports complete elimination of hand weeding in squash, cucumber, pumpkin, cantaloupe and watermelon, and a saving of more than $100.00 per acre.

Advantages

Under normal soil conditions, Alanap-I maintains excellent weed control for a period of 3 to 8 weeks, even after heavy rains. Alanap-I is non-hazardous to handlers, warm-blooded animals and vine crops. It is easy to apply and reasonably priced.

When To Use

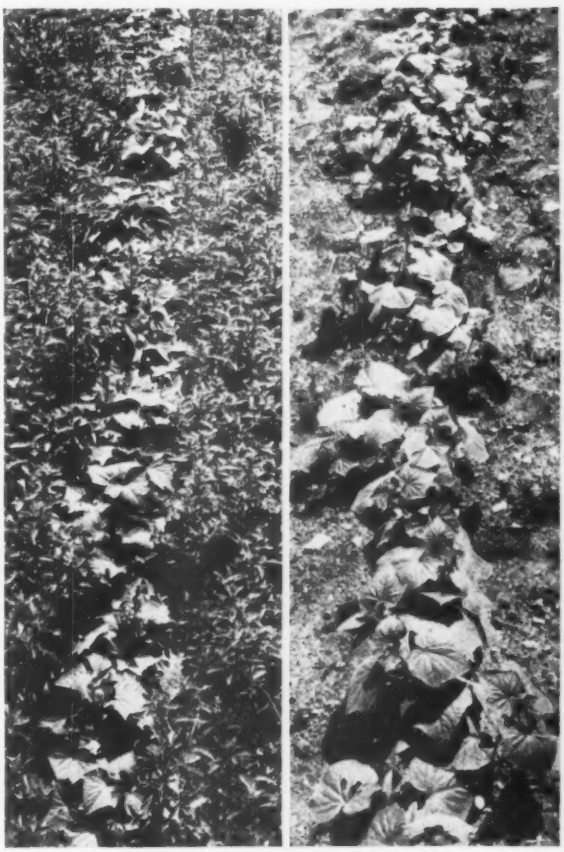
Alanap-I can be used for a pre-emergence weed control by spraying soil surface up to 48 hours after planting. A post-emergence spray may be used after vine crop has emerged but before weeds have emerged. To insure maximum weed control, soil clods should be eliminated.

Now Available

At the present time, Alanap-I is specifically recommended for use in New England, New York, Pennsylvania, Delaware, New Jersey, Ohio, Indiana, Michigan, Illinois, Minnesota, Wisconsin, Iowa and Missouri. Other states will have the unique benefits of Alanap-I after more extensive field tests have been completed.

"ALANAP" Promising on Other Crops

Further testing on cotton, soybeans, peanuts, lima beans and asparagus may allow wider uses in 1954.



ALANAP-I Made This Big Difference

On the left, weeds have nearly choked out this untreated row of young cucumber plants at Associated Seed Growers weed control test plots. Row in right photo was treated at 4 lb. Alanap-I per acre immediately after planting cucumber seed.

*U. S. Pat. No. 2,556,665

Advise local supplier of your needs beforehand to insure availability. For further information about Alanap-I, write to:

UNITED STATES RUBBER COMPANY

Naugatuck Chemical Division, Naugatuck, Connecticut

manufacturers of seed protectants—Spergon, Spergon-DDT, Spergon-SL, Spergon-DDT-SL, Phygon Seed Protectant, Phygon Naugets, Phygon-XL-DDT, Thiram Naugets, Thiram 50 Dust—fungicides—Spergon Wettable, Phygon-XL—insecticides—Synklor-48-E, Synklor-50-W—fungicide-insecticides—Spergon Gladiolus Dust, Phygon Rose Dust—miticides—Aramite—growth retardants and herbicides—MH-30, MH-40—pre-emergence weed killers—Alanap-I.

Examining the taste testing room at the U. S. Department of Agriculture's Western Regional Research Laboratory at Albany, Calif., are left to right: Dr. C. C. Nimmo, WRRL; A. H. Harrison, managing director of the Western Frozen Food Processors Association.; K. R. Hartman, 1952 association president; and Miss Margaret M. Stithem of the laboratory staff.

Western Frozen Food Processors Assn. holds ninth annual convention

California freezers elect officers, cut 260 samples of 1952 pack, and discuss current market instability

THE NINTH ANNUAL CONVENTION of the Western Frozen Food Processors Association brought together some 600 representatives of California's frozen food and allied industries, the largest turn-out in the organization's history. Events at the two-day meeting held at the Hotel Casa Del Rey, Santa Cruz, on February 12 and 13, included election of new officers, cutting of 260 samples of the past year's pack, and a panel discussion of current frozen food market instability.

H. D. Buxton of California Frozen Foods, Inc., Modesto, a past director of the association, was elected president for the coming year. Sterling B. Doughty, Jr., of Sacramento Frosted Foods Co., Sacramento, who has also served as a director, was elected vice-president, and Edward S. Hart of the Central California Berry Growers' Association was elected treasurer. A. H. Harrison continues as the organization's secretary and managing director. Frank R. Oliver of Frank S. Oliver & Son, Watsonville, became a member of the board of directors, and retiring president K. R. Hartman of the Hartman Ranch Co., San Jose, became an ex-officio board member.

The sample display, collected and prepared by Dr. D. G. Sorber and his associates of the U. S. Department of Agriculture's Western Regional Research Laboratory, contained three examples of each item cut. Two were from the packer's stocks, one defrosted, the other frozen. The third, purchased from a retail store cabinet, was also displayed defrosted. Considerable variation in quality loss in the latter category was noted; while some samples remained in excellent condition, others had suffered visibly from poor handling.

Additional sample graded

An additional sample of each item, taken from packers' stocks, had previously been graded and scored by committees in an earlier technical meeting of the association held at the Western Regional Research Laboratory in Albany, Calif., and the results of the scoring were made available to the individual packers concerned. Notable in this year's cutting was the high quality level demonstrated.

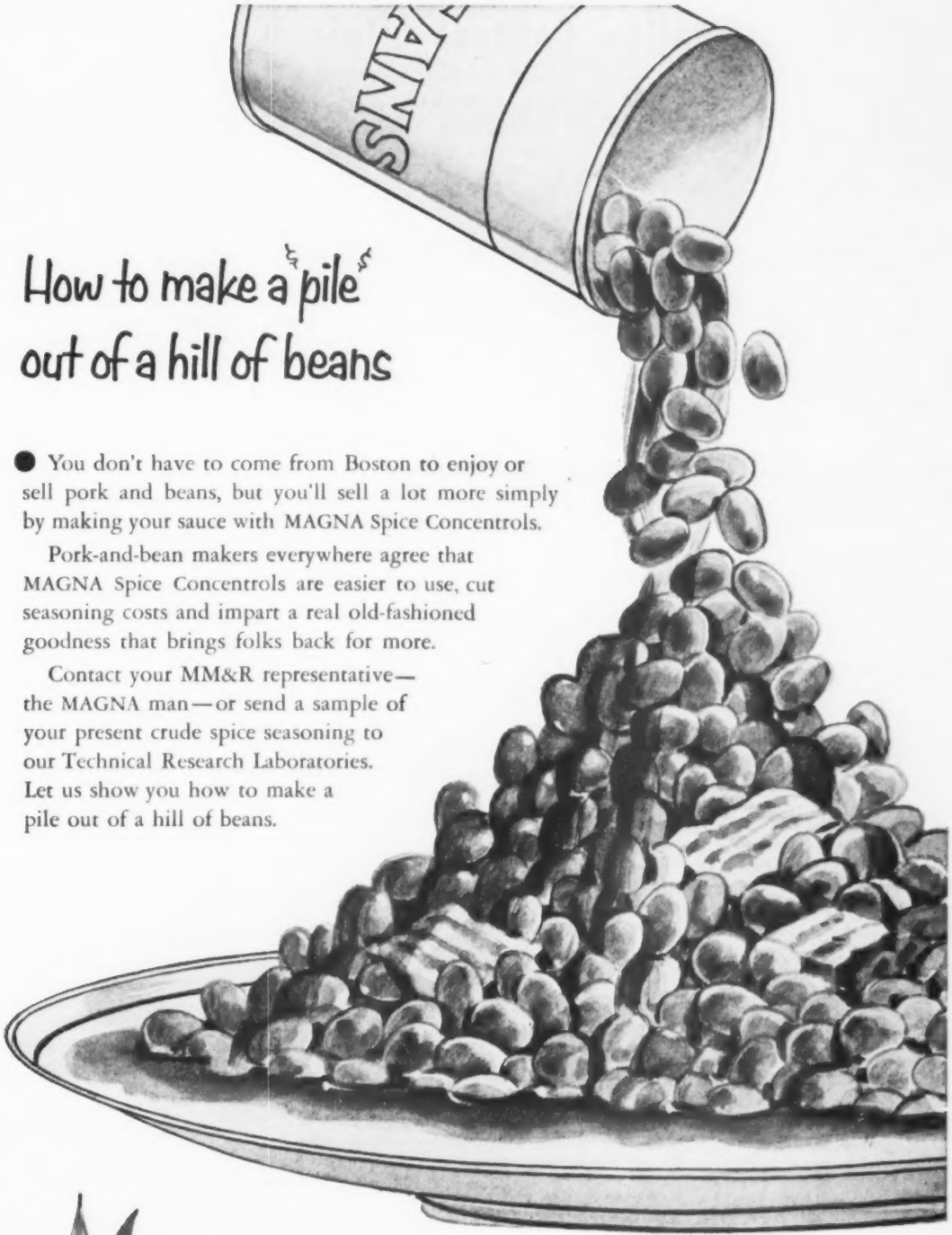
Causes of and remedies for the unsettled state of the frozen food market were debated by a panel representing a national brand packer, a private label packer, a private label buyer, a distributor, and a retailer. Moderator was E. B. Stark, editorial director of *Western Canner & Packer*. W. J. Dills, sales director of Stokeley's Honor Brand Frosted Foods, Oakland, representing the national brand packer's point of view, decried current price-cutting practices as undermining to the industry and confusing to the consumer, and urged maintenance of both quality and price standards. He cited the example of premium quality canners who have prospered while maintaining premium prices. He considered the basis of the problem to be limited freezer space.

Representing the private label packer's point of view, H. D. Buxton outlined the background of the problem in terms of recent attempts to find outlets for B and C grade merchandise and recommended recognition of the place of these lower grades on the market. He advocated industry cooperation in supplying an expanding market for frozen foods and in holding the line against competing products. M. L. Combs of Snow Crop Marketers, speaking from the point of view of the private label buyer, said that adherence to quality standards, backed by brand advertising, makes for stability.

Advertising was strongly advocated as a way out of what he considers a chaotic market condition by Alvin W. Langfield of Ferguson-Langfield Frozen Foods, representing the distributor's point of view. Langfield, past president of the National Wholesale Frozen Food Distributors, laid the cause of the present situation to

(Continued on page 60)

H. D. Buxton, California Frozen Foods, Inc., Modesto, newly elected president of the Western Frozen Food Processors Association.



How to make a "pile" out of a hill of beans

● You don't have to come from Boston to enjoy or sell pork and beans, but you'll sell a lot more simply by making your sauce with MAGNA Spice Concentrols.

Pork-and-bean makers everywhere agree that MAGNA Spice Concentrols are easier to use, cut seasoning costs and impart a real old-fashioned goodness that brings folks back for more.

Contact your MM&R representative—the MAGNA man—or send a sample of your present crude spice seasoning to our Technical Research Laboratories. Let us show you how to make a pile out of a hill of beans.

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Since 1895 ONE OF THE WORLD'S GREATEST SUPPLIERS OF ESSENTIAL OILS

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Quality Control Clinic

DR. WILBUR A. GOULD
Ohio State University
QUALITY CONTROL EDITOR

"Quality makes the product what it is"

Part II:

Consistency in processed foods

Continuing his March consistency discussion, Dr. Gould describes in detail the operation of the Stormer viscosimeter and the Gardner mobilometer

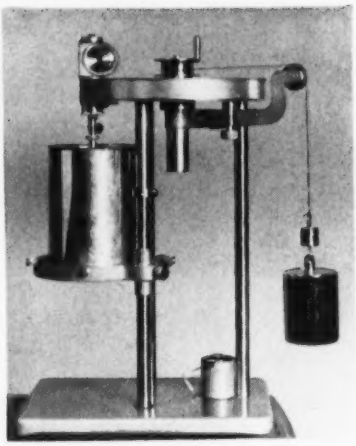


Fig. 1—The Stormer viscosimeter.

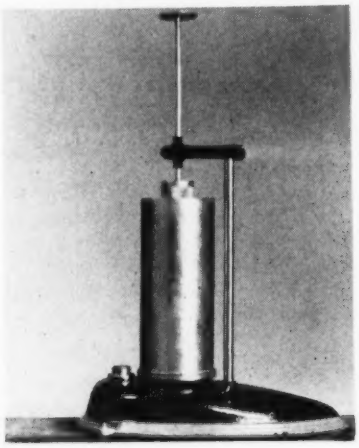


Fig. 2—The Gardner mobilometer.

The Stormer viscosimeter

THE STORMER VISCOSIMETER (Fig. 1) is used to objectively measure the viscosity or consistency of certain food products and to give an index of the resistance of the sample to flow. It is a precision instrument in design and is rather simple in operation.

When using the Stormer viscosimeter, the operator should periodically check the instrument against known standards to make certain that the instrument is always in calibration. Also, when making viscosity measurements all the samples should be at the same temperatures as the viscosity decreases with elevated temperatures.

With most food products, the consistency or viscosity of the sample, as taken with the Stormer viscosimeter, is reported as the relative viscosity. The relative viscosity is "obtained by dividing the time required for the rotor to make 100 revolutions in the liquid under test by the time required to make 100 revolutions in distilled water, using the identical procedure, temperature, and driving weight. Distilled water may be replaced by another standard such as castor oil or glycerol if the liquid under test is beyond the viscosity range of water[1]."

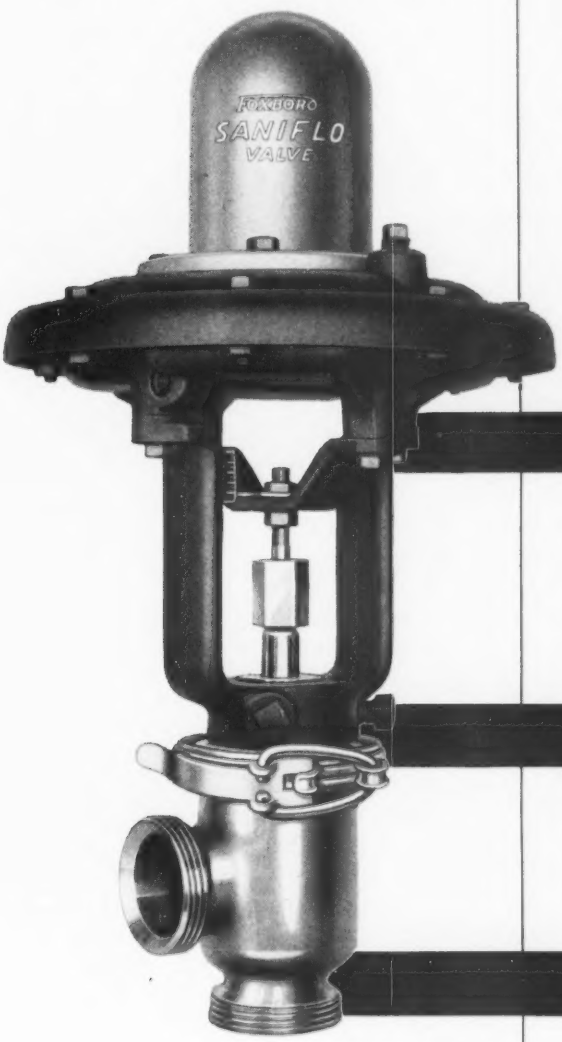
If desired to express the viscosity time in seconds for 100 revolutions of the rotor, in terms of centipoises (absolute viscosity), this can be done by referring to calibration curves of liquids of known viscosities. The viscosity of water at 68°F. is very nearly one centipoise. However, you must remember that some samples of food products may not be truly viscous, that is, the revolutions per second are not always directly proportional to the driving weight. This is referred to as the "apparent viscosity" of the sample. In making viscosity determinations, the quality control technologist should determine a consistency or viscosity curve; that is, plot increased driving weight vs flow (revolutions/seconds) for each type of food product.

The Stormer viscosimeter consists of six basic parts; (1) Test cup—for many food products a No. 2 can is most satisfactory; (2) rotor—a cylindrical rotor is satisfactory for many food products, although the paddle or propellor types may have certain specific uses; (3) driving weight—depending on the type of product, the weight may be increased from 0 to 850 grams or more; (4) winding drum; (5) brake mechanism; and (6) revolution counter. The gears and pinion mechanisms are mounted inside a dustproof cap mounted on the top of the upright supports. To measure viscosity with the Stormer viscosimeter the general procedure is as follows.

1. Place the instrument on a horizontal shelf or table so that the driving weight can drop through a distance of approximately 40 inches.
2. Attach the rotor to the chuck and secure it with the screw on the chuck.
3. Adjust the driving weight to the desired weight for the particular food product (cream style corn—750 grams; tomato juice—50 grams; and tomato pulp—400 grams).
4. Place the can of food product (well stirred and at the desired temperature) on the platform. Raise the platform to immerse the rotor centrally into the sample until the top

(Continued on page 58)

all new "SANIFLO" CONTROL VALVE SPECIFICALLY DESIGNED FOR YOU!



IT'S SANITARY . . .

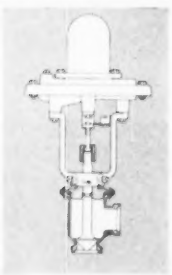
This new Foxboro 2-way sanitary control valve has been engineered expressly for processing equipment such as fillers, juice heaters, evaporators, deaerators. Its one-piece stem and plunger eliminates threads and crevices which are apt to harbor bacteria. All parts exposed to products are corrosion-resistant Type 18-8 Stainless Steel.

IT'S EASY TO CLEAN . . .

Operator simply snaps quick-disconnect clamp to take the valve apart, and loosens a hand nut to remove plunger stem. No gaskets or stuffing box to complicate cleaning. Neoprene "O"-ring Seals assure leak-proof connections between body, bonnet, and stem.

IT HAS HIGH FLOW CAPACITY . . .

Expanded, streamlined body construction allows greater flow of product . . . even products like cream-style corn, cranberries and banana purée flow freely and easily through the Saniflo Valve. Equally effective for throttling (proportional) or open-and-shut control. Standard line sizes, 1" to 3", are available.



You saw it at the Canning Show.

You'll agree that Foxboro's Saniflo Control Valve was designed with YOU in mind. Learn all about it. Write, The Foxboro Company, 854 Neponset Avenue, Foxboro, Mass., U.S.A.

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INSTRUMENTS that Improve Product Quality

FACTORIES IN THE UNITED STATES, CANADA, AND ENGLAND

Pickle packers launch big promotional program

The biggest promotional program in the history of the pickle industry was touched off before a record crowd at the winter meeting of the National Association of Pickle Packers in Chicago held concurrently with the National Canners Convention.

National Pickle Week, May 14-23 this year, will be boosted through a barrage of news releases, pictures and stories to magazines, newspapers, radio and TV, converting pickles from a purely impulse item to a planned, demand item.

The pickle packers were alerted on "Operation Pickle Push" in true military style under the command of E. S. Guggenheimer, chairman of the sales promotion committee. The objective of the "push" is more profits in pickles from increased pickle sales.

During the presentation of Pickle Week plans, each member of the Association was commissioned a general in "the great pickle sales army," to engage in the campaign for the pickle push.

The morning session of the pickle packers meeting started off with a keynote address by James M. Irwin, NPPA president, who reported that 1952 saw the greatest annual consumption of pickles ever recorded. "Twenty years ago we were consuming less than five million bushels of pickles a year and now we are consuming close to 11 million bushels of pickles a year," he said.

In projecting the future of the pickle industry, Mr. Irwin referred to the research committee's work. "They have made numerous tests on the brining of pickles and I know they are working feverishly with seed companies on varieties of pickles that will give you not only a better pickle, a better shaped pickle, but, we hope, considerably greater yield per acre which will help reduce your costs, and help you to maintain better quality and quality control in the fields and in your plant."

The international scope of the National Pickle Packers Association was pointed out by W. E. Dailey, Jr., chairman of the research committee, in his introduction of Harry Hirsch of the Glaser, Crandell Co.

"During recent years," Mr. Dailey said, "the NPPA has become an international organization with members in Sweden, Germany, Mexico and Canada. People of far-off countries are interested in our methods and we in theirs."

Mr. Hirsch, a native of Germany and now a member of the NPPA's research committee, gave a comparison of cucumber yield per acre in the United States and Germany in his talk on "The Pickle Industry in Germany."

Americans growers of cucumbers got a ten-year average yield of 77 bushels per acre, while the German farmers harvest between 300 and 350 bushels per acre in nonirrigated soil. The United States average in 1952 was 92 bushels per acre. Some areas in the country show yields ranging up to 500 bushels per acre, but these are from irrigated fields.

However, Mr. Hirsch said, the consumption of pickles per capita in Germany is less than half of the consumption here.

In analyzing the situation, Mr. Hirsch gave four reasons why the United States is so far ahead in pickle sales even though far behind Germany in yield per acre. They are: (1) great improvement in quality of pickles; (2) greater variety of pickle products than Germany; (3) superior merchandising; and (4) advertising and publicity.

"There is hardly a day when Mrs. Consumer is not reminded of pickles, whether she reads a newspaper or a magazine, whether she listens to the radio or watches television. Credit also should be given to the chain stores and the grocers who have constantly increased the shelf space assigned to our products."

Research in sanitation of food processing plants was reviewed by Dr. Charles C. Yeager, a former U. S. Department of Agriculture man with wide experience in War Food Administration and other government agencies. Dr. Yeager traced the steps in the development of fungicide paint to control mold.

"The sanitation of food plants is not an expensive or time-consuming problem," Dr. Yeager concluded. "Through the use of outstanding paint formulations, durable fungicidal wall washes, and fungicidal penetrants, food processors are able to have plants free from microbial organisms. They are able to cut substantially their cleaning budget, and still produce top-grade products. It may well be said that the advent of proper fungicidal formulations has marked one of the outstanding steps in modern food plant sanitation."

The next meeting of the NPPA will be July 16-17 at the Drake hotel in Chicago.

NCA'S Dr. Cameron

California Canners League holds annual cuttings

In spite of recent experimentation in the use of supersonics, antibiotics and ionizing radiation in the preservation of foods, the Appert principle of sterilization may be expected to continue as the only satisfactory canning method "for many years to come." This was the opinion expressed by Dr. Edwin J. Cameron, director of the Washington Research Laboratory of the National Canners Association in his speech to the Canners League of California at its 1953 fruit and vegetable sample cuttings.

"In seeking for these 'cold sterilization' procedures," said Dr. Cameron, "it is felt that by such means we may improve products quality-wise and nutritionally. Whether such hopes will be realized only time will tell, but I am not sure that our interest in these new procedures will be maintained enthusiastically after we have had 10 or 15 years additional experience with new applications of heat such as the 'high-short' methods."

Dr. Cameron spoke to California members of the industry and their guests at a luncheon meeting climaxing the two-day session held at the Fairmont Hotel in San Francisco January 22 and 23. This year's cuttings were dedicated to the memory of Nicolas Appert, and Dr. Cameron's address was devoted to a description of Appert's work and the later development of canning from an "art" to a science.

D. B. Wood, president of the Canners League of California, introduced Dr. Cameron, and Yves Roubaud, deputy consul of France in San Francisco, responded to the tribute to his countryman.

Mr. Wood reported that at this year's cuttings more than 1,400 samples of fruits and vegetables, repre-

(Please turn the page)

Du Pont MARLATE®

methoxychlor insecticide

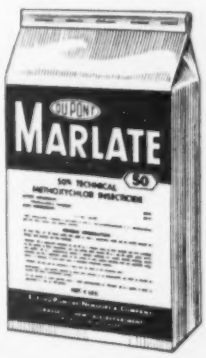
Gives you Insect Control With Minimum Residue Problems

You know how important it is to get your fruits and vegetables free of insect damage or infestation, and also free of toxic residues.

That's where Du Pont "Marlate" methoxychlor insecticide fits in. For "Marlate" controls many of the major insect pests of food crops all season long. And it can be used up to 7 days before harvest and still keep your residue problem at a minimum.

This outstanding combination of qualities makes "Marlate" methoxychlor extremely valuable on such processing crops as lima and snap beans, peas, cabbage, cherries, peaches, tomatoes, cucurbits, prunes, and many others. Among the many insects "Marlate" controls are the following:

Mexican bean beetle	Cucumber beetles	Cherry fruit fly
Flea beetles	Fall armyworm	Cherry fruit worm
Leafhoppers	Pea weevil	Japanese beetle
Cabbage worms	Oriental fruit moth	Blister beetles
Bean leaf beetle	Plum curculio	



Use "Marlate" 50, a 50% methoxychlor wettable powder in sprays. Specify "Marlate" in your dust mixtures.

E. I. Du Pont de Nemours & Co. (Inc.)
Grasselli Chemicals Department,
Wilmington, Delaware

DU PONT
REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

senting 49 California canners, were cut open, judged by committees for appearance, taste, texture and uniformity, then viewed by more than 1,300 members of the canning and allied industries. The samples were taken from California's total season's production of more than 91,000,000 cases, representing almost one-third of the nation's canned fruits and vegetables.

Directors of National Canners Association elected for 1953

NCA directors elected to fill unexpired terms

William E. Butterfield, Butterfield Canning Co., Muncie, Ind.
George Davidson, Foster Canning Company, Napoleon, Ohio
Samuel E. W. Friel, S. E. W. Friel, Queenstown, Md.

NCA directors elected for three-year terms

Joseph F. Barker, The Utah Canning Co., Ogden, Utah
C. F. Burhans, Jr., Lakeland Highlands Canning Co., Inc., Highlands City, Fla.
Fred C. Bush, Bush Brothers & Co., Dandridge, Tenn.
Hamilton C. Davis, Walnut Creek Canning Co., Walnut Creek, Calif.
John E. Dodds, Schuckl & Co., Inc., Sunnyvale, Calif.
John E. Frost, Delta Canning Co., Inc., Raymondville, Tex.
J. William Hathaway, Hathaway Bros., Columbia Falls, Me.
Karl A. Hirzel, Hirzel Canning Co., Toledo, Ohio
Marvin H. Keil, Green Giant Co., Beaver Dam, Wis.
Ralph Keller, George A. Hormel & Co., Chicago, Ill.
Walter J. Kemp, Kemp Bros. Packing Co., Inc., Frankfort, Ind.
Charles O. Koller, Charles G. Summers, Jr., Inc., New Freedom, Pa.
Edwin C. Kraus, Big Stone Canning Co., Ortonville, Minn.
Elton Lasselle, Portland Canning Co., Inc., Sherwood, Ore.
J. G. McIntosh, Baldwin Packers, Ltd., Lahaina, Maui, T. H.
F. J. McQuad, John W. Taylor Packing Co., Inc., Hallwood, Va.
W. Ennis Parker, Pomona Products Co., Griffin, Ga.
A. J. Rogers, Cherry Growers, Inc., Traverse City, Mich.
Richard Schlecht, Rossville Packing Co., Rossville, Ill.
George C. Seybolt, Wm. Underwood Co., Watertown, Mass.
G. Bartol Silver, Charles B. Silver & Son, Havre de Grace, Md.
Vance F. Sutter, Fidalgo Island Packing Co., Seattle, Wash.
Donald E. Tobin, Victor Preserving Co., Ontario, N. Y.
Marcus Urann, National Cranberry Association, South Hanson, Mass.
Fred T. Wright, Beaver Valley Canning Co., Grimes, Iowa

NCA directors whose terms held over

Frank Armstrong, Jr., National Fruit Product Co., Inc., Winchester, Va.
Charles H. Bailey, Monmouth Canning Co., Portland, Me.
A. Edward Brown, Michigan Fruit Canners, Inc., Benton Harbor, Mich.
N. C. Buckles, Quality Food Products Co., Bradford, Ohio
J. Glen Brubaker, Hemet Packing Co., Hemet, Calif.
R. D. Cleaveland, The H. J. McGrath Co., Baltimore, Md.
Mrs. M. F. Counter, The Fort Lupton Canning Co., Fort Lupton, Colo.
Berkeley A. Davis, Rogers Canning Co., Milton, Ore.
George H. Draper III, Draper Brothers, Frederica, Del.
Edward R. Elwell, Burnham & Morrill Co., Portland, Me.
A. M. Erickson, Barron-Gray Packing Co. Div., Hawaiian Pineapple Co., Ltd., San Jose, Calif.
S. K. Ferguson, Lakeside Packing Co., Manitowoc, Wis.
Robert A. Friend, Friend Bros., Inc., Melrose, Mass.
Leo M. Gleason, G & M Food Products, Des Moines, Iowa
George Gooding, California Packing Corp., San Francisco, Calif.
Robert A. Harris, Jr., Kinsale Canning Co., Kinsale, Va.
Henry W. Hartle, Owatonna Canning Co., Owatonna, Minn.
J. D. Hendrickson, Columbia River Packers Assn., Astoria, Ore.
T. B. Holcombe, Indian Ridge Canning Co., Inc., Houma, La.
Grant Horsey, Wm. J. Horsey Co., Tampa, Fla.
Grover Howard, Baron Canning Co., Westville, Okla.
Bradley T. Jones, Pictsweet Foods, Inc., Mt. Vernon, Wash.
Spencer R. Keare, Illinois Canning Co., Hoopeston, Ill.
M. E. Knouse, Knouse Foods Co-op., Inc., Peach Glen, Pa.
George Lambert, Keystone Mushroom Co., Inc., Coatesville, Pa.
R. C. Lewis, Bordo Products Co., Winter Haven, Fla.
W. Stanley Macklem, Curtice Brothers Co., Rochester, N. Y.
Philip N. Mark, Tri-Valley Packing Assn., San Francisco, Calif.
A. N. Meyer, Fredonia Canned Foods, Inc., Fredonia, Wis.
Ivan Moorhouse, Olympia Canning Co., Olympia, Wash.
George Pierce, Fairmont Foods, Inc., Barker, N. Y.
Reynold H. Peterson, Big Horn Canning Co., Cowley, Wyo.
D. T. Saxby, California Packing Corp., San Francisco, Calif.
Robert E. Searby, Hawaiian Canneries Co., Kapaa, Kauai, T. H.
L. E. Shannon, Otoe Food Products Co., Nebraska City, Nebr.
P. K. Shoemaker, H. J. Heinz Co., Pittsburgh, Pa.
Victor R. Smith, Box Elder Packing Corp., Brigham City, Utah
Angus G. Stevens, Stevens Canning Co., Ogden, Utah
Alfred J. Stokely, Stokely-Van Camp, Inc., Indianapolis, Ind.
A. O. Verbeke, Libby, McNeill & Libby, Chicago, Ill.
Albert Vignolo, Jr., West Coast Packing Corp., Long Beach, Calif.
F. H. Walrond, Manteca Canning Co., Manteca, Calif.
Newlin B. Watson, R. S. Watson & Son, Greenwich, N. J.
D. B. Wood, Wood Canning Co., Stockton, Calif.

KERR

(Continued from page 20)

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whole list of 300 market items showing the change of price in each one. Some would be up, some down; and some would have grass-hoppered all over the place. But the purpose of the study is to come up with one representative figure that can be used to disclose, accurately and quickly, the trend of consumer markets. Few of us, given the list of 300 items, would have the foggiest idea of how to begin the process of adjustment to a single number that could be compared with the single number of a month or a year earlier. That mathematical translation is a job for experts . . . Which

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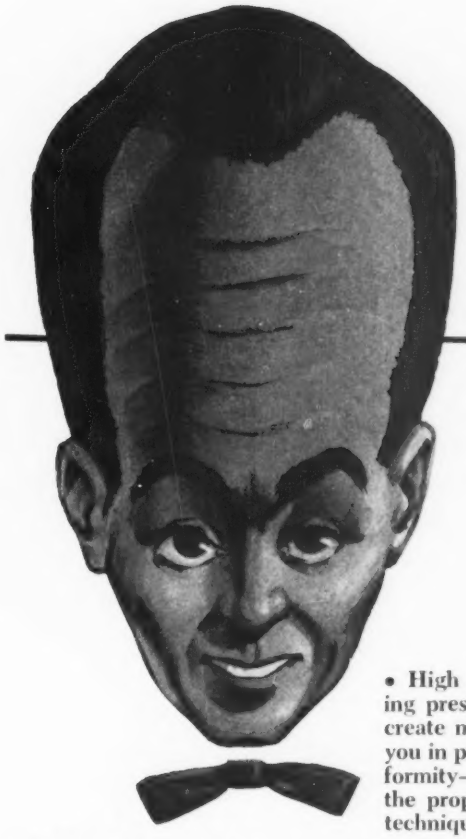
HIGH HEAD PRESSURE PUMPING



with Waukesha

POSITIVE DISPLACEMENT SLOW SPEED SANITARY PUMPS

• High head pumping pressures can create much grief for you in product deformity—unless the proper pumping technique is used.

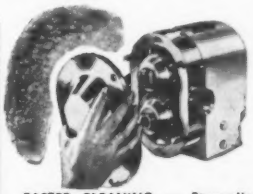
"Buzz-Saw" high speed is not necessary. Nor is it desirable because of resultant churning, agitation, aeration. Rather, positive displacement pumping is called for—the kind you get with Waukesha Sanitary Pumps. This slow-speed principle sends the product through exactly as it enters the pump. Regardless of your product's viscosity, it is handled gently and efficiently. The large, open chambers and positive twin-blade impeller action of Waukesha Positive Displacement Pumps prevent damage and waste through the pumping process.

Protecting your product through transmission is the most important part of your entire processing operation. You need Waukesha Slow Speed pumps. Write for details on the use of Waukesha pumps in your plant.

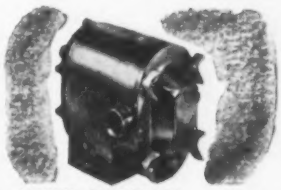
Waukesha 100% SANITARY PUMPS

Dependable Product of a Responsible Manufacturer

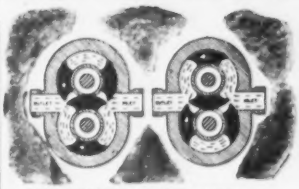
Check these Exclusive features:



FASTER CLEANING — Streamlined design, eliminating all dirt-catching crevices inside and outside — plus simple disassembly — saves clean-up time and labor.



LONGER SERVICE-LIFE — Fewer working parts, plus Waukesha's One-Piece O-Ring Sanitary Seal, and Standard Reconditioning Plan, mean longer trouble-free service.



CORROSION-RESISTANT METAL — all product contact parts are of Sanitary "Waukesha Metal" or Stainless Steel. Easy to clean, leaves no metallic flavor

WAUKESHA FOUNDRY COMPANY • WAUKESHA, WISCONSIN

Canner's Acreage

Text and photographs courtesy Dow Chemical Co.

Trailer-type equipment similar to this is often used by commercial spray companies. Note the chain field marker which is used to prevent overlapping of sprayed strips.

Weed sprays help pea industry in the Pacific Northwest

Weeds in pea fields, once a major problem in this area, are being destroyed by chemical weed killers

MARTIN W. CARSTENS
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THE EXPANSION OF THE COMMERCIAL pea industry from 8,000 acres to almost 25,000 acres in three years is the dramatic story behind the introduction of chemical weed control to northwestern Washington in 1948. Research came in time to save a valuable industry for an area well adapted for pea growing except for a weed problem that discouraged farmers and caused processors to investigate other areas for growing peas. This would have caused a tremendous loss to northwest farmers, as peas for freezing comprise the backbone of the food processing industry and closures or partial closures would have had far reaching effects on other crops as well. Pea silage is a valuable by-product used by the dairy industry, and through the years pea growing and dairying have become closely allied industries. Similar trends are shaping up in the development of a sweet corn industry since the advent of chemical weed control.

With the establishment of the Northwestern Washington Experiment Station early in 1947, research was immediately directed to finding a solution to weed problems in peas, as well as other major crops. Early experiments screened a large number of herbicides, but the main efforts were soon directed toward the use of the dinitro selectives. Results were so outstanding that commercial growers almost immediately adopted a suggested program with excellent results. In 1948, 200 to 300 acres were sprayed, and in the following three years the use of dinitros became a standard practice over the entire area. Chemical weed control has directly resulted in an average yield increase in excess of one-half ton per acre, a reduction of 20 percent in seeding rates, reduction in vining costs, has greatly increased quality, made possible the growing of short-vine type peas of high yield potentials, and by no means of least importance, is resulting in freeing fields of weeds for other crops as well.

The sprays are applied with ground equipment as high-volume—low-pressure application is necessary. It is used in the following manner.

Concentrations

The effectiveness of various concentrations of the dinitro sprays bears a direct relation to air temperature at the time of application. In general the concentration may be reduced as air temperature increases without loss in the lethal effect of the spray on weed seedlings.

The following concentrations of dinitro selective sprays containing ammonium dinitro secondary butyl phenate are being recommended for western Washington for the temperature ranges specified.

60°F. to 65°F.—4 quarts (13.7% concentrate) per 100 gallons of water.

65°F. to 70°F.—3½ quarts (13.7% concentrate) per 100 gallons of water.

70°F. and above—3 quarts (13.7% concentrate) per 100 gallons of water.

Concentrations as low as 2½ quarts per 100 gallons of water were effectively applied to peas when air temperatures were above 75°F. and the peas were two to three inches high. Low concentrations are not recommended however, for general field applications.

Rates of application

The above formulations were applied at rates of 70 to 100 gallons per acre. It was found that when both peas and weeds were small the lower gallonage was sufficient but when peas were four to eight inches high the larger amount was necessary to obtain a good weed kill. Under very favorable conditions lower volume applications prove just as effective as those used above but the results may be variable, with the less experienced operator. Applications as low as 50 gallons per acre are being recommended by some companies dealing in herbicides, but research results prove the higher rates most effective.

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factor in obtaining weed kill without injury to pea vines. The selective action of the dinitro spray is based on the application of the spray in coarse drops that roll from the waxy leaves and stems of the peas but adhere to the leaves of weed seedlings. Under high pressures the spray is "atomized" or broken in fine droplets that adhere to peas as well as weeds and serious injury is apt to occur. Pressures found most effective were within a range of 35 to 60 pounds.

Time of application

The timing of spray application for best weed control is modified by local field conditions. Since peas are quite resistant to the spray material in all but the very earliest stage of growth, the timing of the spray should be based largely on the kinds of weeds present and the stage of weed growth. Weeds are most easily killed in the seedling stage. If, therefore, annual weeds are the principal problem the spray should be applied when most weed seedlings have emerged and before several sets of true leaves have developed. The older the weeds the more resistant they become to the lethal action of the spray. Also there is more surface to be covered so that a greater volume of spray material is required, particularly when protected by larger pea vines. This is especially true with certain weeds such as Lambs' Quarter, Knotweed, and some crucifers.

In certain fields where perennial weeds such as Canada thistle or Equisetum are serious pests, it is often most effective to delay spray treatment until the peas are six to eight inches high, using a greater volume of spray and perhaps a slightly higher concentration. Such a delayed spray will burn back the top growth of these weeds, and in the case of Canada thistle, will prevent them from reaching budding stage by the time the peas are ready for vining. Consideration should be given to the fact that an increasing amount of mechanical injury will be incurred by the spray equipment as the pea vines increase in height. Spot spraying can be done effectively when such weeds are not general over the entire field. Applications at the higher temperatures (70° to 80°F) will also give better control of these perennial weeds.

Climatic factors

Weather conditions offer the greatest variable in the application of these herbicides. The action of the spray is retarded if the weather is cool and cloudy. Results are not satisfactory if sprays are applied when air temperatures are below 60°F. Neither should sprays be applied if rain is expected within eight to 10 hours. It has been observed that sprays applied to commercial fields late in the afternoon are not as effective as those applied earlier in the day. Cool night temperatures and the dilution of the spray by dew is perhaps responsible. The hours between 10:00 a. m. and 4 p. m. are best for applying the dinitro selective sprays. Most weeds are more difficult to kill as they become older or when growing conditions are adverse. After extended dry seasons, or following drying winds, or other factors that harden plants, weeds acquire greater resistance to the sprays. Wind movement is often a contributory factor to poor weed control in that the spray pattern is interrupted and good coverage is not obtained. These factors often account for the variable results that are sometimes obtained.

Variety susceptibility

During the 1948 season dinitro selective sprays were applied to 31 varieties of freezer and canner peas. No injury was observed in any variety. Most cases of injury to particular varieties in commercial fields have been traced to faulty application, either to high pressure or to the use of greater concentrations than recommended.

Action on weed species

The dinitro sprays are very effective in killing most annual weeds. Smartweed, one of the principal weed pests in western Washington, is fortunately one of the easiest to control. Mustards and other cruciferous weed species are easily controlled in early stages of growth, but develop some resistance as they mature. Lambs' Quarter develops a marked resistance at an early stage of growth, particularly following dry weather. Excellent control of nightshade has been obtained in experimental plots as well as in commercial fields. Grasses other than seedling annuals are not killed although the top growth may be burned back if temperatures are relatively high.

Effect on yield

The direct effect on yield resulting from the use of the selective spray is in proportion to the kind and proportion of weeds present in the pea fields. Obviously those having the greatest weed problem will derive the greatest benefit in increased yields from the us of the spray.

In this experiment both dinitro sprays were applied at a rate of 80 gallons per acre using a concentration

(Please turn the page)

Closeup showing sprayed pea field completely free of weeds except for a few grasses.

Note the weeds in crescent missed by sprayer in the center of this commercial pea field. (Smartweed)

New cucumber resistant to spot rot or scab

S.R.-6 was developed by Dr. Walker and his associates at the U. of Wisconsin to resist spot rot or scab. Numerous field trials prove it does just that. A cross between Maine #2 and National Pickling, S.R.-6 is similar in type to National. Color of processed fruit good! An excellent field performer, S.R.-6 gives a high yield of spot-free pickles. Has vigorous vine and good leaf coverage. Seed now available for this year's planting.

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Post-emergence treatment of sweet corn with Dow Selective in experimental plot at left and right, with check row in center.

Fields sprayed with Dow Selective at early stage of growth. No mechanical injury results from early spraying.

of three quarts per 100 gallons of water.

Table 1 shows the effect on yield of applications of two commercial dinitro preparations, in experimental plots heavily infested with Smartweed, Lambs' Quarter, and Black Mustard.

Table 1.—Effect of selective weed sprays on yield and tenderometer value of Gradus peas.

	Dow Selective	*Sinox W*	*Check*
Ave. yield per plot	222.25 lbs.	217.25 lbs.	122.75 lbs.
Ave. yield per acre	4609 lbs.	4506 lbs.	2546 lbs.
Ave. tenderometer value	97.5	102.5	94
Least significant difference			5% level
Plot Size 1/20.74 acres			62.76 lbs.
Replications 4			
Temp. at time of application 68°F.			

Significant increases in yield were obtained by the use of either Dow Selective or Sinox W over the check plot. However, there is no significant difference between the yield of plots sprayed with these two materials.

Northwestern Washington growers and processors alike are enthusiastic with the results of commercial application of the dinitro selective herbicides in peas. In Skagit and Snohomish counties these sprays have been used over approximately 95 percent of the commercial acreage. Yields, according to records obtained from local processors, were one and three-fourths tons per acre in comparison with an average of one and one-fourth tons over a 10-year period. Although the overall increase cannot be entirely attributed to the use of weed sprays, these have been a major factor. It is estimated that the value of the increase in tonnage of vined peas due to the use of weed sprays amounted to one-half to three-fourths of a million dollars in the two counties in 1949.

Equipment

Proper spray equipment is essential for successful application of the selective sprays. The sprayer should have a tank of at least 200 gallon capacity and a low pressure pump capable of delivering 55 gallons per minute. No agitator is necessary in the spray tank. The sprayer should be equipped with its own power unit in order to deliver a spray of constant volume and pressure. Operation of spray pumps by means of power take-off from tractors has not proven satisfactory. Most commercial spray operators have the spray equipment mounted on flat bed trucks, arranging all controls so that they can be easily operated by the driver.

The spray boom should be front mounted and adjustable for height. In this position all nozzles can be observed by the operator and any clogging quickly detected. Less injury to pea vines is incurred if the spray is applied ahead of the equipment as the herbicide is not sprayed on the crushed vines.

A nozzle applying a fan spray should be used for uniform coverage. These nozzles are usually spaced 18 inches apart on the boom. At a boom height of 24 inches the spray pattern should cover the soil surface completely without over-lapping. After considerable use the nozzle orifice may become distorted from wear resulting in an uneven spray pattern. Replacement of the orifice disk is necessary should this occur.

A 30-foot boom length has been found most satisfactory particularly if some smaller acreages are to be sprayed. In order to prevent overlapping or skipping areas, a length of chain is fastened on the ends of the boom to mark the strip sprayed on the previous round.

Nurse tanks are usually operated in conjunction with the spraying operation. These tanks, of one to two thousand-gallon capacity, enable the operator to keep spray equipment in almost continuous use. By mixing the spray in the nurse tanks the operator is insured of a uniform concentration for use at all times.

Henry L. Ahlgren (left) associate director of University of Wisconsin agriculture extension service, greets Ray D. Krier, president of Wisconsin Canners Association, at annual conference of cannery fieldmen.

Wisconsin fieldmen's conference held at Madison

Nearly 300 canning company representatives attended the annual Wisconsin cannery fieldmen's conference held at the University of Wisconsin in Madison January 28 and 29. Jointly sponsored by the University's college of agriculture and the Wisconsin Canners Association, the conference featured 17 speakers who reported on developments in growing crops for processing in the state.

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Frank H. Langsenkamp, famous canning machinery manufacturer, dies in Indianapolis

Frank H. Langsenkamp, 74, chairman of the board of the F. H. Langsenkamp Company, died March 15 in Methodist Hospital in Indianapolis after a three-month illness.

Mr. Langsenkamp had expanded the Langsenkamp Company from a one-room coopersmith shop into a multi-million dollar enterprise. He was one of the nation's top authorities on tomato canning machinery and had invented much of the equipment produced in his plant. The present company was incorporated in 1924 and Mr. Langsenkamp headed it as president until 1952.

Mr. Langsenkamp was a member of the Canning Machinery and Supplies Association, Indianapolis Chamber of Commerce, Board of Trade and Rotary Club.

Surviving are the widow, Mrs. Estella Stroup Langsenkamp; a son, Frank Langsenkamp Jr.; a brother, Henry Langsenkamp; and a grandson, all of Indianapolis.

Wisconsin canners form migrant relations group

A five-man committee on migrant relations has been set up by the Wisconsin Canners Association, Ray D. Krier, president, announced.

Chairman of the new committee, the first of its kind in the country, is D. W. Reynolds of Reynolds Bros., Sturgeon Bay, Wis. The four other members are: E. J. Blaska, Oconomowoc Canning Co., Oconomowoc; M. H. Keil, Green Giant Co., Beaver Dam; N. J. Lau, Clyman Canning Co., Clyman; and A. N. Meyer, Fredonia Canned Foods, Inc., Fredonia.

"Wisconsin agriculture depends on the 12,000 migrants who come here each year to help tend, harvest and process certain farm and orchard crops, as we do not have enough people available in the state when we need them," Mr. Krier said. "Therefore, we believe it is up to those who employ the migrant workers, and the communities where they work, to cooperate in providing better housing, health conditions, recreational facilities and part-time educational opportunities for the migrants and their families."

He listed the following objectives of the new "Migrant Relations Committee":

1. Integrate work of the canning industry with the state's program for migrant workers.
2. Stimulate community and employer assistance in educational and recreational activities for migrant workers.
3. Serve as a clearing agency to exchange information on good employer practices.
4. Promote utilizing of existing and potential community resources.
5. Encourage a better health program.

"We believe that Wisconsin leads the country in its enlightened handling of the migrant workers," Mr. Krier said, "and the canning industry voluntarily now seeks to lead the way in bringing about the greater improvement that still lies ahead."

KEMP BROS.

(Continued from page 31)

install a cooler. The 13-ounce cans are conveyed along 210 feet of continuous conveyors for approximately three minutes for adequate cover sterilization, then are sent through the Kemp-made spinner cooler where they are cooled down to 100° F.

The 46-ounce cans are conveyed through approximately 150 feet of conveyors for cover sterilization and then pass through an old Berlin Chapman cooker-cooler unit. The first part of this unit contains warm water and the second part of the unit contains cold water. Kemp's engineers found that this combination gives the proper cooling. The unit was put into operation to save building another cooler, and it functions quite satisfactorily.

As the cans come from the various coolers, they are conveyed through long lines to thoroughly dry them, then are sent to the labelers. Since practically all of Kemp's products are sold under company labels, the cans are labeled immediately on two Burt labelers and cased in either a Burt or New-way caser before being taken to the warehouse. The Clark Pul-Pak system of stacking is used to stack cases in the warehouse. Robey says the savings in space and in the cost of wood pallets are the big advantages of this system.

This pioneering firm is generally credited with two "firsts" in the industry: Manufacture of a non-separating tomato juice, a claim that still holds, and placing on a scientific basis the preservation of vitamins A and C in tomato juice. Although the latter point may not be as important today merchandising-wise as it was several years ago, Kemp officials feel that their method of making tomato juice preserves as much of the original vitamin content as is possible by any method in existence today.

Specialty items added to pack

Specialty items including jams, jellies, preserves and pickles will be added to the 1953 pack of the Bagley Canning Co., Ashland, Ore. Ralph Koozer, general manager, has announced that Fred Roberts will head the development of these new products, which will be marketed under the Del Rogue label. Roberts for the past five years was superintendent of operations at the Tea Garden Products Co. plant in San Leandro, Calif.

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The Market Place

News of Promotion & Selling

"Birds Eye kids" rag rolls offered as premiums

Merry, Mike and Minx, the "Birds Eye kids," are now being offered to consumers in the form of colorful cloth doll patterns as a special orange juice concentrate premium. Full color newspaper ads and TV spot announcements will help launch the premium offer.

The "kids" were named two years ago in a national consumer contest, and now with their appearance as rag dolls they have been officially christened by Birds Eye. The promotion is aimed at stepping up consumer demand for Birds Eye orange juice concentrate, the company announced. To help dealers tie in with the program, the firm is offering point-of-sale display material.

April 25–May 2 is Baby Week

A Baby Week seal for display in retail stores will be offered to grocers during National Baby Week, celebrated this year April 25 through May 2. Other point-of-sale material will be provided by the Gerber Products Co. and manufacturers of related foods for babies. Glossy prints of the seal may be obtained free from the Customer Service Dept., Gerber's Baby Foods, Fremont, Mich.

Label matches cherry color

White Swan maraschino cherries, manufactured by the International Fruit Products Co., Cincinnati, Ohio, are colored a uniform bright red. A matching red is incorporated in the design of the gold and white label for shelf appeal. The closure, a screw cap by Crown Cork & Seal Co., is white coated.

Concentrated fruit beverage

A concentrated fruit beverage, which stays fresh without freezing, has been developed by Snow Crest Beverages, Inc., Salem, Mass. Slated for initial distribution in March, each can makes one quart of non-carbonated fruit drink with the addition of water. The four-ounce cans may be kept at ordinary room temperature without fear of spoilage, the company says.

Sunkist adds new juice

A reconstituted natural strength lemon juice is the latest addition to the Sunkist family of products packed by the Exchange Lemon Products Co., Corona, Calif. Two tablespoons of the reconstituted juice equal the juice of one average lemon, the company says.

Television, radio and newspaper media have been used to promote the new product in several markets. Eight-ounce Duraglas bottles and metal closures manufactured by Owens-Illinois Glass Co.; labels printed by U. S. Crocker Co.; Cel-O-Seal sealing band by I. F. Schnier Co.

Co-op promotes frozen berries

The newly-created California Strawberry Council, an organization composed of the majority of strawberry growers and freezers in that state, will promote the sale of California quick frozen strawberries to institutional and retail outlets on a national scale. It has appointed Alport & O'Rourke, San Francisco, to direct advertising and publicity.

With headquarters in San Francisco, the council is not state-controlled and will function solely as a promotional organization to develop new and larger outlets for California strawberries. Directors of the Council are: Louis N. Ruso, A. L. Ruso, Inc.; Frank Saveria, California Berry Freezers, Inc.; Edward S. Hart, Central California Berry Growers Assn.; Ned Driscoll, Driscoll Strawberry Associates; and John Simonds, Lodi Frosted Foods. Present members produce a combined total of over 80 percent of the California frozen strawberry pack, according to Alport & O'Rourke.

Label shows jar contents

Prunes that are cooked and ready to serve are packed in glass by Mrs. M. Manning, Baltimore, Md. For instant identification and shelf appeal, the jars carry labels with the company name, product name in large letters, and a realistically colored dish

(Continued on page 66)

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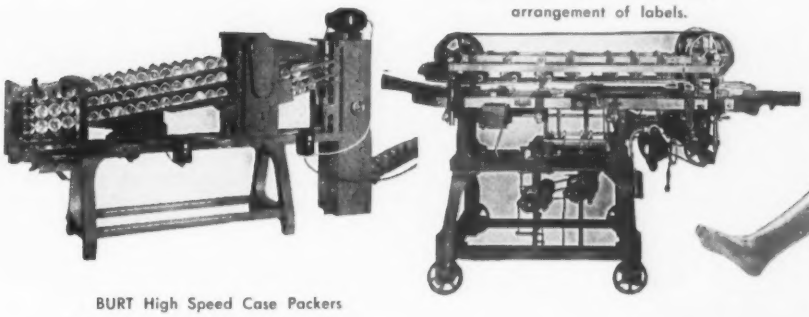

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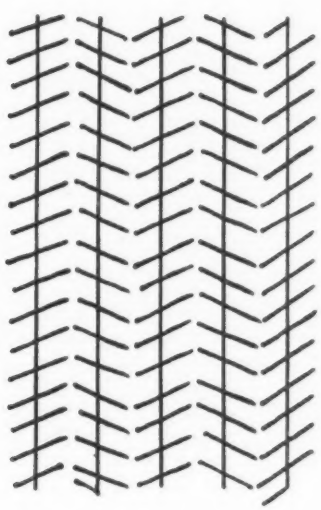

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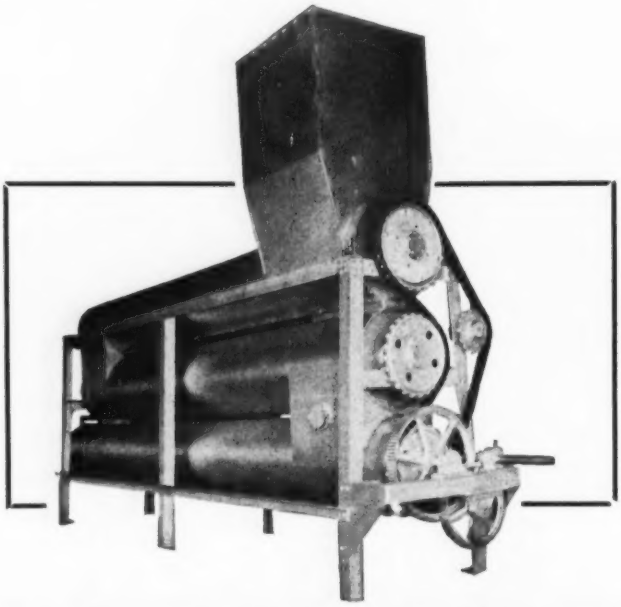

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GOULD

(Continued from page 42)

of the rotor is covered to a depth of one-half inch.

5. With the brake "on," raise the driving weight by turning the handle of the rewinding drum counter-clockwise until the weight nearly touches the pulley. Set the dial by releasing the brake by a quarter turn of the brake control knob, allowing the rotor to revolve until the pointer on the dial is located between 80 and 90; then set the brake. The purpose of locating the pointer 10 to 20 graduations to the right of zero is to permit the rotor to turn a sufficient number of revolutions to get a running start before checking with the stopwatch. If in setting the dial it has caused an appreciable lowering of the weight, again rewind the drum to raise the weight box to the pulley before making the test.

6. With stopwatch in hand, release brake and measure the time in seconds required for 100 revolutions of the rotor as indicated by the revolution counter. Set the brake and record the number of seconds.

7. Make at least two readings on the same sample and average the results. The second reading can be made on the same sample by rewinding the cord on the drum, which acts independently of the gear wheel when the brake is set. Before each successive reading, the rotor should again be permitted to turn 10 to 20 revolutions before starting the stopwatch.

After each use all the parts of the instrument should be thoroughly cleaned and dry.

The number of seconds required for the rotor to make 100 revolutions has been used to measure the consistency of some food samples. For cream style corn, the instrument has been used on the hot brine-corn mix (using a 250-gram driving weight) to predict the finished product consistency. It has also been used to grade the finished products of canned cream style corn and tomato products. For corn (using the 750-gram driving weight), light consistency products will require approximately 15 seconds, while heavy consistency products will require over 175 seconds. With tomato pulp (12 percent solids), readings from 10 seconds to over 300 seconds have been recorded when using a 400-gram driving weight. Tomato pulp of 12 percent solids manufactured with the hot break process will give a different reading

at the same Bostwick or Adams value than tomato pulp manufactured by the cold break process. Thus, the Stormer viscosimeter measures other factors than just the ability of the product to flow under a given set of conditions.

The Gardner mobilometer

Gardner and Van Heucheroth in 1927 and Gray and Southwick in 1930 reported on the development and the use of the Mobilometer (Fig. 2.) This instrument measures the consistency of products by determining the time in seconds for the plunger to fall in the food product through the distance between two reference points (usually 10 centimeters) on the plunger rod.

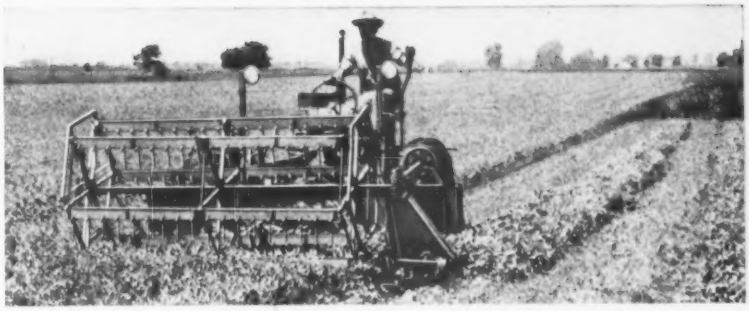
As previously mentioned for other consistency measuring instruments, the consistency of any product must be taken on any product at controlled temperatures. The Mobilometer is constructed with a water-cooling jacket which surrounds the sample and is specifically designed to maintain uniform temperatures when determining the consistency of any sample.

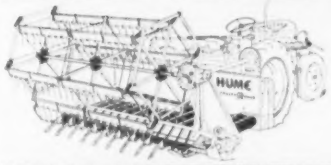
The mobilometer has been used to evaluate the consistency of vegetable and other oils, sirups, heavy cream products, mayonnaise, and tomato products. The results obtained with this instrument may be expressed as the product of the time (seconds) and load (grams) divided by the distance traveled (centimeters). With the distance and the load remaining constant, consistency or viscosity as measured with the Gardner mobilometer then becomes a function of time.

This instrument consists of five basic parts: (1) base plate with bubble leveling device; (2) sample cylinder; (3) plunger (several types of discs are available) and weight pan; (4) a bracket to support the weight pan; and (5) a water-cooling jacket. The general procedure for determining the consistency of food products with the Gardner mobilometer is as follows:

1. Place the instrument on a horizontal shelf and level it by adjusting the leveling screws.
2. Remove the cylinder and fill to a uniform height and then replace the cylinder into its position inside the water jacket.
3. Attach the desired disc to the plunger.
4. Adjust the plunger in the cylinder until the disc is just immersed (approximately one-half inch) in the sample and add the weights to the weight pan.
5. Release the plunger and record

(Please turn the page)





HUME TRACTOR-ROWER Light weight Hume Tractor-Rower cuts a wide swath at high speed and windrows the crop neatly, gently, without shattering, twisting, roping.

Harvest Insurance!

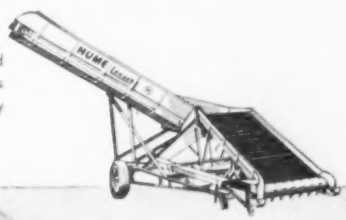
HUME

all-weather green crop harvesters

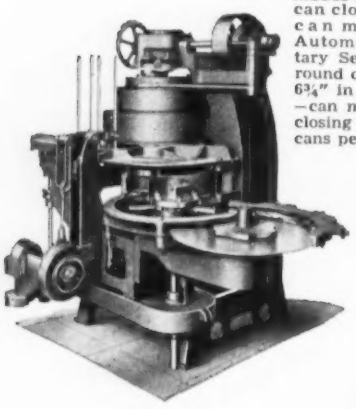
Even under SEVEREST conditions — as long as you can haul vines from the loader this Hume harvesting team will cut and windrow, and load, the crop — cleanly, quickly, completely, gently. That's real insurance against harvest loss. Write for literature.

H. D. HUME COMPANY • Main Office, Mendota 11, Illinois
Eastern Service Branch: H. D. Hume Company, Mechanicsburg 4, Penna.

HUME LOADER Light weight, high speed Hume Loader picks up all the crop — loads vines in loose, fluffy, clean condition — easy to pitch at the viner.

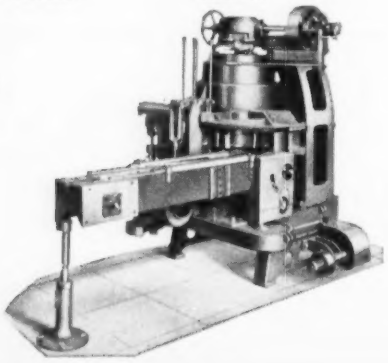


Angelus Automatic Seamers for round cans are available in a wide variety of styles with capacities ranging from 30 to 400 or more cans per minute, disc feed and straight line feed, can rotate or head rotate type, for vacuum or non-vacuum closing. Angelus Seamers, the result of more than 40 years of specialized experience in development and production, are the ultimate in simplified, functional design that assures minimum investment, minimum production costs and minimum maintenance.



MODEL 50-P—For can closing and can making. Automatic Rotary Seamer for round cans 5" to 6¾" in diameter—can making or closing up to 150 cans per minute.

MODEL 59-P-MSLF—Chain feed for can closing only. Automatic Rotary Seamer for round cans 5" to 6¾" in diameter—can closing up to 150 cans per minute.



Investigate the advantages of low cost production, low cost investment, and low cost maintenance with Angelus Automatic Seamers.

Write today for complete details on models and an Angelus Engineered Application Recommendation.

ANGELUS
Sanitary Can Machine Company
Cable Address "Angelmaco" Western Union Code
1900 Pacific Boulevard • Los Angeles 58, Calif.

the time with a stop watch for the plunger to pass through the desired distance (usually 10 cm.)

The number of seconds required for the plunger with uniform driving weight to travel through 10 centimeters distance is used as a measure of the consistency of the food sample. For each product in which consistency is a factor of quality, the quality control technologist should establish the range in seconds or the desired consistency levels for each quality.

References

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WESTERN PROCESSORS

(Continued from page 40)

the breakdown of the established frozen food distribution system several years ago. As a remedy he urged raising of retail prices to cover an industry-wide promotion campaign.

Speaking for the retailer, Alan W. Young of Safeway Stores, Inc., expressed the belief that consumers know what they want and deliberately seek it, and that advertising plays a minor part in their decisions.

Although no single solution to the market problem was arrived at, all panel members appeared to agree that the industry's production problems

(Continued on page 68)

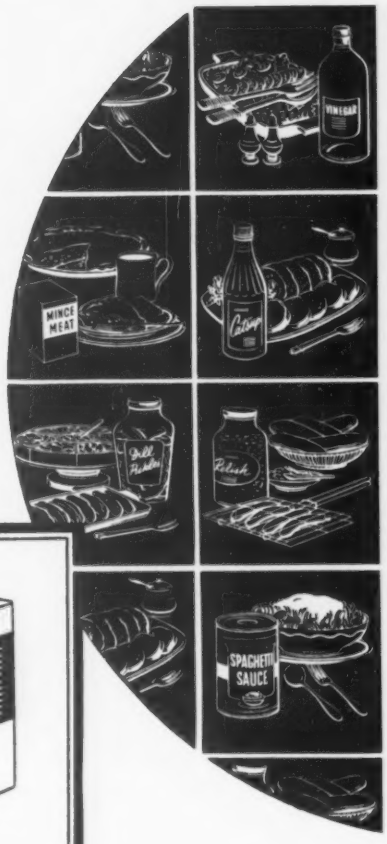
(Continued from page 46)

recalls that one time a young man sitting opposite us made a firm reference to "the recessive drift of anthroponomical postulates." When this page asked feebly what that might mean in American, the young Ph.D., who clearly expected to be asked, grinned at us in a friendly manner and rephrased his stuff this way; "How're you gonna argue with a guy who says, 'So what?'" Which may point up the difference a translation makes.

The consumer price index is called by a good many people, who ought to know, the most important statistical project of the Federal government, because it's been of the widest usefulness. It was set up in the first World War to help handle wage adjustments. It's been used by Congress repeatedly in the formulation of public policies; and it's been the top tool in discovering and analyzing business trends. In fact there's no way of measuring the enormous use of its findings by individual business in understanding their markets and the changes appearing in them. Naturally it's been relied on, during and after the second World War, in measuring the effectiveness of price controls and in discovering needed changes in those controls. It's been used in making wage agreements; not only the spectacular big-union contracts with their escalator clauses, but also the smaller contracts made between employers and workers, with both sides wanting to know how much the wages would buy of the goods the workers' families needed.

The chances are that not many more wage contracts, of the kind recently publicized, will be fixed up with these escalator clauses. This doesn't mean, however, that the index will be of any less value in reaching wage settlements; only that it will be used in somewhat different ways. It's expected that wages in general will continue to advance during this year, or at least part of it. But labor leaders expect the escalator, within say a year or less, to start downward; and from a labor leader's point of view that isn't anything to be greeted with cheers. However, as of now, the wages of some three and a half million union workers are regulated by the index. While there's been some difficulty in adjusting the pay-change formulas to the revised consumer price index, the usual statement is that probably this can be worked out and that the present contracts will be allowed to run their course. It's likely to depend upon how much a few powerful labor leaders really want to change their contracts.

DOUGHNUTS WITH A DIFFERENCE



...and that DIFFERENCE is

SPICEOLATE® FLAVORS!

It's flavor that sells . . . and when a superior flavor for your *doughnut flour mix* is combined with *water-solubility, low vapor pressure, longer shelf-life* and *more flavor "spread"* . . . the outcome is doughnuts with a difference! *Spiceolate Doughnut Mix* is a special combination of water-soluble pure spice oils, designed to make your doughnut flour the foundation for that velvet texture and rich spicy flavor so prized in America's doughnut favorites. The D&O Flavor Technicians will also prepare any special blend desired by a manufacturer in *Spiceolate* form and ship it in bottles containing the exact amount for a batch. Write for specific information and a copy of the *Spiceolate Brochure.*

OUR 154TH YEAR OF SERVICE

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DODGE & OLCOTT, INC.

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Sales Offices in Principal Cities

ESSENTIAL OILS • AROMATIC CHEMICALS • PERFUME BASES • FLAVOR BASES • VANILLA

Production Lines

New methods • New research

First "duplex" pressure package unites two basic containers

The marketing of a self-dispensing pressure package in a glass container—deemed virtually impossible less than a year ago—might well grow to revolutionary proportions due to the development of a unique idea in "duplex" packaging, according to the American Can Co.

Through the combined efforts of packer, outside engineers, and can manufacturer, Larvex, a moth-proofing composition, is now ready for distribution in a self-dispensing, low pressure glass bottle container. Patents on the principles involved in this package have been applied for by the Zonite Products Corp., manufacturers of Larvex.

This achievement represents the first completely integrated package of its type, for it incorporates a glass bottle containing the product under pressure, protected by a composite fibre container with metal ends, made by American Can Co. These two basic containers were united as a single unit and provide the consumer with a practical and safe "duplex" package, Canco says.

New method offers control of mineral deficiencies in plants

E. M. Stoddard and Mrs. Frances Meyer of the plant pathology department at the Connecticut Agricultural Experiment Station, New Haven, are studying the use of "chelate complexes" for control of diseases caused by the absence or scarcity of one of the mineral elements.

For example, if a plant is iron-deficient, some of the iron-chelate complex is applied to the soil and mixed around the roots of the plant. This complex then breaks up, the plant gets the iron it needs, and more metal is released by the chelate complex. This new method is being used successfully in Florida to control deficiencies on citrus.

Bulletins issued recently describe apple pests

Three rust diseases of apples, all of which spend part of their life on red cedar or juniper trees, and red-banded leaf roller and its control are discussed in two new bulletins issued recently by the Agricultural Experiment Station in Geneva, N. Y. Known as cedar-apple rust, hawthorn rust, and quince rust, the rust diseases are most commonly found in the Hudson Valley. All three are readily controlled by fungicides of the ferbam group such as Fermate, the bulletin says.

Red-banded leaf roller, which has assumed the role of a major pest in New York apple orchands during the past six years, can be held in check with some of the new insecticides, particularly DDD and parathion, the report says.

Sterilizing food with high intensity electrons

Food technologists agree that heatless sterilization of foods through radiation is still "one for the book of the future," according to the Institute of Food Technologists. The big mystery at present, the Institute says, is just what does irradiation do to the taste, color and texture of food.

An article in *Food Technology*, the official journal of the IFT, describes a number of promising techniques for sterilizing food with ionizing-penetrating radiation that leaves food fully acceptable in flavor, color and texture. The techniques include irradiation in the frozen state, irradiation in the absence of oxygen, and irradiation in the presence of protectors—chemical compounds added to intercept undesirable changes.

Aldrin accepted for wireworm control on potatoes

Aldrin, the insecticide used against many major farm pests, has now been granted official label acceptance for control of wireworms on Irish potatoes by the U. S. Department of Agriculture. The announcement was made by F. W. Hatch, manager of the Julius Hyman & Co. division of Shell Chemical Corp.

Tests made during the past four years in major potato growing areas in the United States established aldrin's effectiveness against wireworms and showed it to be one of the most economical methods of wireworm control yet developed, Hatch said. It has been used successfully to control locusts, cotton boll weevils, leafworms, rootworms, and sugar beet maggots.

USDA issues first standards for grades of frozen squash

The U. S. Department of Agriculture recently issued the first standards for grades of frozen squash (summer type.) The styles of pack provided for are "sliced" and "cut." Grades are designated as U. S. grade A or fancy; U. S. grade B or extra standard; and substandard. Grade is determined by color, absence of defects, character, flavor and odor.

Quartermaster technologist honored for baking development

Successful development of wheat base—a heat stabilized fraction of whole wheat flour that can be stored for as long as one year at 100° F.—has won for Joseph Cryns, baking technologist at the Quartermaster Institute in Chicago, the annual award of the research directors of the Institute's research and development division.

Previously, the limited stability of whole wheat flour (six weeks during the summer months) prevented the issue of food products containing whole wheat in the overseas B-ration. Wheat base now makes it possible, when recombined with white flour, to provide servicemen with typical whole wheat bread, muffins, and similar items. It is currently being considered for the commercial market and a patent application, naming Cryns as inventor, has been filed.

ROBINS-HAYNIE TOMATO SCALDER

. . . faster . . . more economical . . .
gives you better operating control

- Ripened tomatoes are given minimum necessary scalding time . . . and conveyed without delay to discharge end
- Partly ripened stock is immediately separated and subjected to a longer period of scalding.
- Capacity—up to 800 baskets per hour
- Temperature regulator eliminates guess-work

By all means—get the full story on this versatile machine . . . IT WILL PAY FOR ITSELF!

WIRE, WRITE, PHONE . . . OR SEE YOUR ROBINS REPRESENTATIVE FOR YOUR COPY OF ROBINS CATALOG . . . over 250 pages of every type of equipment and supplies for better operation

A.K.Robins AND COMPANY, INC.

Manufacturers of Food Processing Machinery Since 1855

713-729 East Lombard St. • Baltimore 2, Md.

ROBINS CATALOG LISTS 805 ITEMS

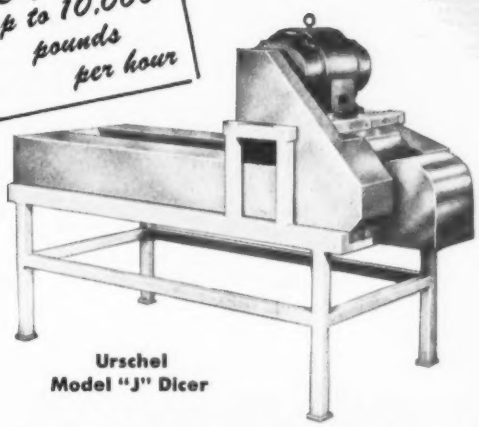
of equipment and supplies essential to operation at minimum maintenance and maximum quality . . . the most complete line offered.

Wherever you look...
You'll see ROBINS!

SPINACH AND GREENS

can now be cut into

Capacities up to 10,000 pounds per hour



Urschel Model "J" Dicer

3/4" and 1"

SQUARES

WITH THE URSCHEL MODEL "J" DICER

With this unit it is now possible to cut spinach and greens in the following range of square sizes—1", ¾", with parts available to also cut ½" and ¼" squares.

Consult with us now for experienced answers to your every food cutting problem.

PRECISION HIGH-SPEED FOOD CUTTING EQUIPMENT

URSCHEL LABORATORIES INC.
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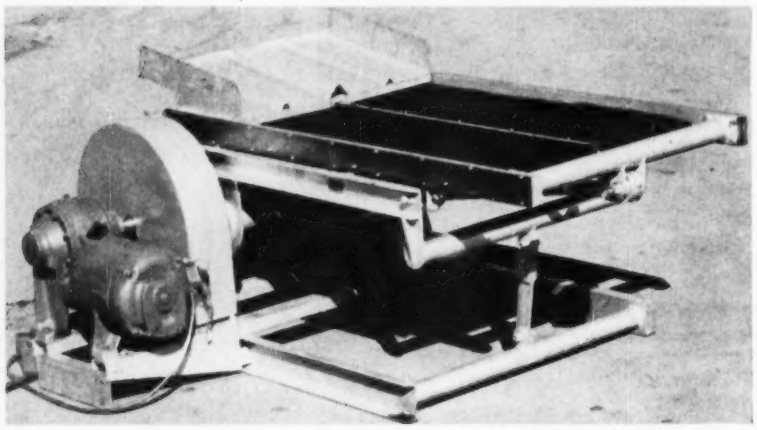
manufacturers of precision, high speed cutting equipment for delicate food products

What's new?

Supplies • Equipment • Trade Literature



GRAPE STEMMER WITH ROTATION FEATURE INTRODUCED

A new grape stemmer, developed as a result of the success of the company's olive stemmer, was introduced recently by Magnuson Engineers. The operating principles of the two stemmers are the same.

There are 112-⅝ inch diameter rubber covered rolls in the stemming bed mounted transverse to the direction of fruit travel. Intermittent reversal of roll rotation agitates the fruit which results in high stemming efficiency, the company says. The rolls are self cleaning. Even progression and gentle handling of the fruit are accomplished by reciprocating the roll bed at a higher velocity during the return rotation than on the forward rotation.

Developed by Magnuson Engineers, 509 Emory St., San Jose, Calif.

PACKAGING PORTFOLIO

"How to pack it," a revised book on packaging and shipping economically and efficiently, was published recently. It illustrates and describes 12 styles and types of standard corrugated boxes, as well as 72 corrugated specialty boxes. Suggestions for proper sealing of each type are included in the descriptive copy.

Copies available from The Hinde & Dauch Paper Co., Sandusky, Ohio.

GEAR DRIVE BOOKLET

Helical gear drives—their advantages, fields of application and correct selection—are discussed in an illustrated 16-page booklet published recently. Cross-sectional views show in detail the design and construction of both the double and triple reduction types.

Book No. 2451 available from Link-Belt Co., 307 N. Michigan Ave., Chicago 1.

ALUMINUM HANDLING TRUCK

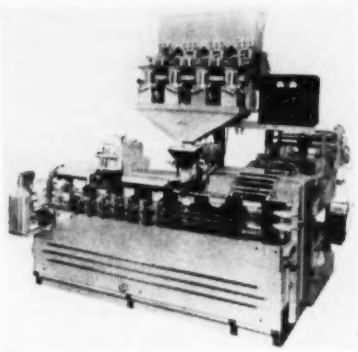
This aluminum handling truck introduced recently carries a ton of materials, its manufacturers say. It is 24 inches wide and 48 inches long, yet weighs only 57 pounds, approximately one-fourth the weight of a conventional truck of the same size. Its design features include permanently lubricated casters and wheels and cast aluminum round corners.

Manufactured by Tobey Mfg. Corp., El Segundo, Calif.

KNIFE GRINDER

A new grinder announced recently was developed especially for sharpening knives of slicing machines on the premises instead of sending them out for custom grinding. It can be used for potato chips, salad greens, and sliced fruits and vegetables, the manufacturer says. The grinder makes a hollow ground surface with a sharp cutting edge and with clearance that results in a clean cut, according to company officials.

Manufactured by Pack-Rite Machines, 407 E. Michigan St., Milwaukee, Wis.



PACKAGING MACHINE

A fully automatic packaging machine for candy, nuts, rice, macaroni, beans, powder and other products was developed recently. Called the Simplex-O-Matic, the machine can be set up with either net weight or volumetric measuring devices for waste-free filling operations, the company says.

It automatically forms single or duplex bags from plain or printed roll stock, flat or gussett, then fills and seals them at rates up to 35 per minute. A "no bag-no fill" safety feature prevents product waste. The machine requires only one operator, company officials say.

Manufactured by Simplex Packaging Machinery, Inc., a subsidiary of Food Machinery & Chemical Corp.

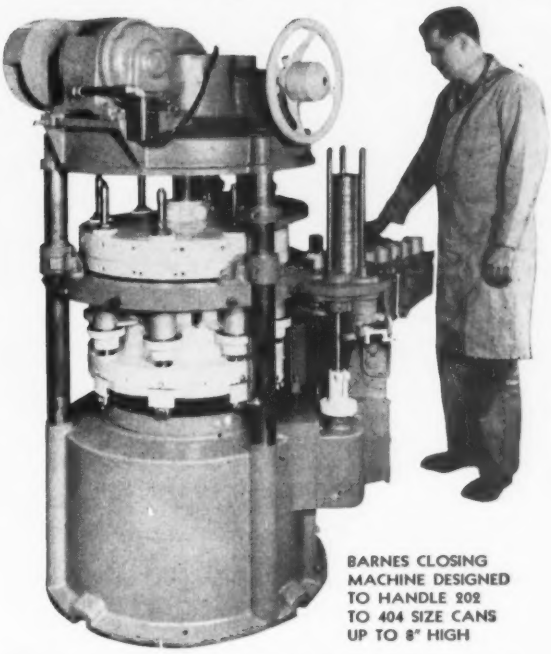
INSTRUMENT BULLETIN

A 24-page bulletin describing the latest development in six inch dial indicators for temperature, pressure and load applications was published recently. Illustrations and mounting dimensions are included.

Free copies available from Taylor Instrument Cos., Rochester 1, N. Y.

NEW!

Fast, Efficient Closing Machine



BARNES CLOSING MACHINE DESIGNED TO HANDLE 202 TO 404 SIZE CANS UP TO 8" HIGH

Here's a new closing machine (double seamer) that features simplicity of adjustment, fast operation and identical seams. Its speed or operation is limited only by slower operating equipment in the line. It has a minimum of parts, resulting in low maintenance costs and requires comparatively little floor space.

FEATURES of this new machine include a single adjustment for obtaining uniform seams consistently, moderate spindle speeds which eliminate "bounce" over side seams, and insure positive sealing. In addition, the design of the end feed makes it possible to take a wider variation in end sizes.

FREE DATA More complete data is included in this new bulletin. If you are a canner or can manufacturer, you should have this bulletin. Ask for Bulletin F-453.

W. F. and JOHN BARNES

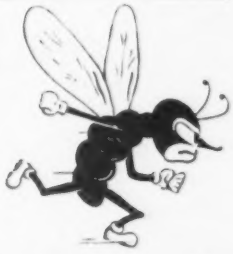
PROCESS EQUIPMENT DIVISION 218 SOUTH WATER STREET, ROCKFORD, ILL.

NOTE: The W. F. and John Barnes Company, exclusive representatives of the James Dole Engineering Company, offer sales and service facilities for the Martin Aseptic Canning System, Centrifugal Deaerator and Straightline Filler.

Other BARNES Processing Equipment

Packaged Can Unloaders
Glass Handling Machines
Automatic Retort Basket Loaders and Unloaders
Special Conveyors
Tray Loader
Pallet Unloader
Carton Uncaser

"no free lunch for bugs in Hamilton's new sanitary kettles!"



A bug's disappointment is pitiful when he looks at a Hamilton SB Kettle. There's just no place for food residue to collect.

Joints, crevices, flanges, etc., are gone. Even the cylindrical adjustable legs are sealed tight. Completely stainless steel inside and out, it cleans in a jiffy.

Full jacketed with extra large steam connections, it is available in capacities of 15 to 350 gal. and pressures of 90 and 125 psi.

You'll want to know its low cost.

WRITE TODAY

Hamilton Copper & Brass Works Dept. B
820 State Ave., Cincinnati 4, Ohio
Please send complete information on the new Hamilton SA Kettle.
NAME _____
ADDRESS _____
COMPANY _____

BRIGHTON

Hamilton copper and brass works

Division of the Brighton Copper Works, Inc. • 820 State Ave., Cincinnati, Ohio

PEOPLE AND PLANTS

(Continued from page 8)

Lloyd C. Bellisime, vice-president of Gentry division, Consolidated Grocers Corp.; secretary, **Allen Leivenberg,** district manager, McClintock-Stern Co., Inc.; and assistant secretary, **Jack Cunningham,** Los Angeles spice broker.

Seabrook Farms Co. of Bridgeton, N. Y., one of the largest growers and packers of quick-frozen vegetables and fruits, has appointed N. W. Ayer & Son as its advertising agency.

Lt. Col. George F. McAneny was appointed commandant of the Quartermaster Food and Container Institute for the armed forces, Chicago.

Wm. H. Martindill, formerly vice-president and on the board of directors of G. S. Suppiger Co., St. Louis, has resigned to become executive vice-president of the South Bend Bait Co., South Bend, Ind.

Russel B. Kline, Ohio assistant district manager, Stokely-Van Camp, Inc., Celina, resigned to become plant manager for Morton Packing Co., Louisville, Ky. Kline is first vice-president of the Ohio Canners Assn.

Harold S. Mitchell, director of laboratories for Swift & Co., Chicago, was elected assistant vice-president.

Paul Hinkle, Ohio Canners Assn., is new president of the Association of Canners' State & Regional Association Secretaries. Other new officers are **Ed Elmer,** vice-president, Minnesota Canners Assn.; and **Charles York,** secretary-treasurer, Pennsylvania Canners Assn. **Cal Skinner,** Tri-State Packers Assn., is retiring president.

Dodge & Olcott, Inc., New York, elected the following officers: **John L. Cassullo,** president; **R. V. Behrens,** treasurer; and **L. Young,** assistant treasurer. **Fred H. Leonhardt, Jr.,** secretary, was appointed vice-president in charge of production and research. Cassullo replaces the late **Joseph F. Rudolph** and Behrens replaces **F. H. Kirn** who resigned.

William A. Lach, vice-president of the Budlong Pickle Co., Chicago, died February 24 of a heart attact while attending the canners convention. He was 66 years old and had been associated with the pickle business since he was 18.

Paul L. Parker, 52, manager of H. J. Heinz Co.'s north central region, died February 25 in Oak Park, Ill., after an illness of several weeks.

William Fries, retired chairman of the board of California Packing Corp., died recently in San Francisco after a brief illness. He was 91.

MARKETS

(Continued from page 56)

of prunes prominently displayed. The container is vacuum sealed with easy-to-remove lug caps, manufactured by Crown Cork & Seal Co., Baltimore.

Movie, peanut butter tie in

Derby's Peter Pan peanut butter is going all out to tie in with Walt Disney's popular new technicolor movie, "Peter Pan." The cap of each jar of Peter Pan peanut butter and salted peanuts, products of Derby Foods, Inc., Chicago, contains one of the characters from the Disney film. Sixteen different characters are lithographed in color on more than 50,000,000 jars distributed nationally.

Special promotions and displays are set up in supermarkets. In some instances, live Peter Pan girls make personal appearances. In addition, there is newspaper, radio and television advertising.

Snow Crop expands poultry line

Snow Crop Marketers have announced the latest addition to their poultry line—chicken wings, breasts, drumsticks, thighs and livers. The chicken parts are nationally distributed in four-color cartons that carry the Teddy Snow Crop trademark.

Posters will be distributed to retailers to help point-of-purchase sales and the products will be advertised on Snow Crop's Arthur Godfrey TV-radio program.

Strained orange juice marketed

Strained orange juice, a new baby food variety homogenized so that it will flow easily through a rubber nipple, was placed on the national market recently by H. J. Heinz Co. The ready-to-use juice, packed in four-ounce tins, had an extensive market test, the company said.

The contents are said to provide an infant with his daily requirement of Vitamin C. The product also carries the AMA seal of acceptance. The company's direct mail, advertising and sampling program will stress that no squeezing, straining, sweetening or sterilizing are required.

New label adopted

A new label design shown on the two jars at the right has been adopted by the Crosse & Blackwell Co., Baltimore, Md., for its complete line of preserves. Vertical depth of white stock labels that replace the foil label shown at the left, has been increased for greater shelf visibility. Brand name at the top of the label stands out clearly in proper proportion above the commodity name at the bottom. Fruit and berry pictures in the center further identify the individual item.

The new design also eliminates the look of "sameness" on a wide display and yet does not lose brand identity, the manufacturer points out. Label designed by T. J. Finucan, advertising manager of Crosse & Blackwell, and the Gamse Lithographing Co., Inc., Baltimore. Re-usable Duraglas tumblers manufactured by Owens-Illinois Glass Co., lithographed metal closures by White Cap Co.

Diamond Alkali Co. tells four developments in annual report

Four 1952 developments in the long-range expansion, diversification and modernization program of Diamond Alkali Co., Cleveland, are featured in the company's annual report to stockholders made public recently: New chlorine production records were established at the company's Houston plant; a control laboratory and industrial relations building were nearing completion at the Painesville plant; commercial operations began at the miticide plant in Newark and the lindane plant in Houston; and a fourth furnace was put in operation at the company's silicate plant in Dallas.

CALLAHAN

CAN MAKING and CLOSING MACHINES

We manufacture a complete line of all type machines for can making and can closing. Included in our models are high speed, fully automatic round or square can making machines, semi-automatic square and irregular can making and sealing machines as well as scroll shears, blanking presses and cap making equipment.

●

(Replacement parts always carried in stock for prompt servicing.)

No. 321-DB

Duplex slitter for body blanks and can ends

No. 375

High speed, full automatic strip feed press for blanking can ends. Also supplied with curler and stacker.

Callahan Can Machine Co., Inc.
80 Richards Street Brooklyn 31, N. Y.

SPEAS

APPLE PRODUCTS

the Standard of Quality for sixty years

NUTRL-JEL
for preserves, jams, jellies, marmalades

CONFECTO-JEL
for jellied candies

Powdered *Apple* Pectin for PRESERVERS

CONCENTRATED APPLE JUICE

Plants in Apple Regions From the Atlantic to the Pacific

SPEAS COMPANY, General Offices, Kansas City 1, Missouri

SWEET AIRE

SWEET AIRE the new and tested method of treatment of Lagoons and Ponds. For odor control and sanitation of Canning Plants, Rendering Plants, Dairy Plants and disposal water of various other industrial wastes.

Lagoons where SWEET AIRE is used will note the abatement of both Mosquito and Fly larva on the Ponds. SWEET AIRE destroys these completely.

SWEET AIRE is not an odor Mask. Its action is to kill odors at their source. Does not need the addition of any other product, and results are complete.

We are prepared to furnish you, at your plant, information as to the proper maintenance of Ponds and Lagoons before starting the canning season, the best methods of feeding SWEET AIRE and its various applications for your particular plant.

SWEET AIRE has been developed by the original Technicians who treated the first Lagoons with this type of chemical. It was improved with the aid of one of the world's largest chemical manufacturing companies, as well as Canners in the field.

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have largely been solved.

The day-long technical meeting of the association, held February 3 at the Western Regional Research Laboratory, included a morning of analyzing the cuttings by grading committees made up of active members of the industry. At the afternoon session, reports were given on work in progress at the laboratory on frozen foods. Dr. F. E. Lindquist gave a resume of present and recent research on frozen vegetables, and Dr. C. C. Nimmo covered current research on frozen fruits. Of particular interest in relation to practical problems of transportation and handling in retail outlets, were studies reported by Dr. Nimmo on the effects of temperature fluctuation upon frozen foods.

Following a general discussion, association members were taken on a tour of the laboratory's freezing facilities, pilot plant, and taste testing laboratory.

PENNSYLVANIA WEEK

(Continued from page 35)

leaders, designed the banners and had them printed for distribution. The Pennsylvania Restaurant Association and the Pennsylvania Hotels Association distributed lists of foods and brands packed in the Keystone State to their members.

Close contact with wholesalers and grocers was developed throughout the planning. The Association furnished news release material, shortfact material, scripts and other material on the canning industry so the grocer could do a better job of publicity and promotion.

All outlets for publicity were used. General news stories, localized releases, short facts, and feature stories were furnished newspapers throughout the state. The Commonwealth magazine devoted an entire edition to the industry and its importance. Scripts and material were furnished to radio and television stations. Speakers from the industry appeared on many radio and TV programs, and at many service club meetings. Mailing pieces were used by grocers. Industry leaders appeared at many grocers' organization meetings to explain the program and obtain cooperation.

The canners themselves used the event to build local good will as well as for sales promotion programs. Window displays, bank lobby dis-

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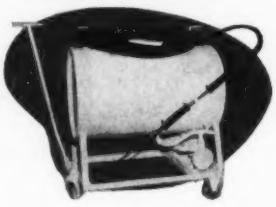

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plays, floats in parades, open-house programs with plant tours, all added to the overall success of the program.

The story of the industry was thus told many times and in many ways. What has it meant and what will it mean to the Pennsylvania canner? What will it mean to the canning industry as a whole? Any canned food promotion is aimed at one ultimate end . . . the complete acceptance, in the market basket, of the canned food product, and in this case—Pennsylvania canned foods. This, of course, requires acceptance by both the consumer and the distributor. The PENNSYLVANIA WEEK program was a big step towards that goal. By meeting with and working with buyers and distributors in all sections of the state, the story of our industry was told . . . the many products and their quality . . . the economy and nutritional value of canned foods . . . and, the importance of the industry as a marketer of our base production of farm produce.

PENNSYLVANIA WEEK provided the canners with an opportunity to meet the press, as represented by newspaper, radio, and television. It provided the industry with the opportunity to meet retailers and retail organizations. It made many new friends in the food industry. It provided proof once more that good "public relations" was just human relations and good contacts. Grocers and their suppliers were anxious to work with the industry and appreciated the canners efforts to work with them.

PENNSYLVANIA WEEK also gave the Association an opportunity to take advantage of the many services available. Allied organizations such as the Can Manufacturers Institute, various can companies, grocery merchandising of the Ladies Home Journal, the National Canners Association, and many others, contributed to the program.

In all, it added up to a program of information and promotion of canned foods. Canned foods were featured in thousands of stores. What the Pennsylvania segment of the industry gained through the promotion was the gain of the entire canning industry. The spirit of cooperation developed between the canner and the food distributor was not confined to the Keystone State. The PENNSYLVANIA WEEK program provided a base for future publicity and public relations programs, and a foundation on which to develop interest in the products and the problems of the canning trade.

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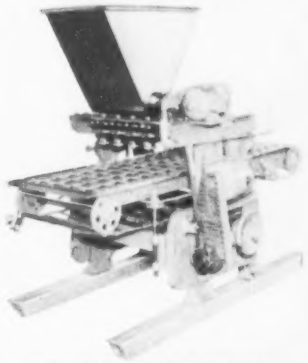

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How they got there

Daniel M. Heekin

Can maker & humanitarian

THE GENERAL OFFICES of the Cincinnati plant of the Heekin Can Company are within a steamboat whistle's listening distance from the Ohio River. In fact, the original factory back in 1901 stood over the sluice that drew the waste water from the old Miami and Erie Canal—and turned the mill wheels of the Heekin plant and gave power to its operations.

Today Daniel M. Heekin, president of the Heekin Can Company, may be found in studied conversation with men who appear to be customers or engineers or business men. On closer inspection, they are just as apt to be discussing trilobites found on the banks of the Little Miami River, where Dan Heekin roamed and fished as a boy; or Indian lore; animal husbandry; soil nutrition; or in fact, river steamboat whistles, of which he is the outstanding collector in the country.

From this center of activities, his responsibility extends into the Heekin operations in can manufacturing in Norwood, Ohio, as well as the large Cincinnati plant; Chestnut Hill, Tennessee; and Springdale and Blytheville, Arkansas. In addition, he is active in other Heekin family operations that have made the name of Heekin outstanding in industry and civic leadership in the Ohio Valley for more than three-quarters of a century. In fact the Heekin Can Company was established in 1901 principally to make cans for James Heekin and Company, packers and processors of coffee, tea, spices and baking powder.

The Heekin family is one generation removed from Ireland. The father came to the States when a small lad and after serving two hitches in the Union Army, started out as an itinerant tradesman selling, on foot, to the farming communities in Southern Ohio. In his early twenties, he bought out the coffee company that had employed him. Daniel Heekin is one of six brothers, all living, who took care of their father's country home. He learned to take care of horses, milk cows, mow the field, raise a garden. This was in Linwood, Ohio, now a suburb of Cincinnati, but then a separate municipality of which his father was mayor.

With all this warm and intimate family relationship, there grew instantly a vast and deep appreciation for the things that the United States stood for. Dan's father, coming to this country from Malinbeg, an Irish community of not more than 10 houses and probably less than 100 dollars in cash in the whole town, took quickly to the right to work, the right to vote, the right to worship and the right to live with a patriotic fervor. These rights have been appreciated for years by the succeeding generations.

Dan Heekin went to Purdue University where he was graduated in engineering, the study and life he enjoyed most. He now is a life member of the American Society of Mechanical Engineers and the Engineering Society of Cincinnati; a member of the science and engineering committee of Notre Dame University, which is a laymen's committee of prominent industrialists who meet with the faculty to develop plans for improved programs of study for students who propose to enter industry. Mr. Heekin also is a member of the National Society of Professional Engineers; he served as a director for three years of the Canning Machinery and Supplies Association; and was president for three years of the Can Manufacturers Institute, including that trying period in the early years of World War II, and in 1949. During the last war, he served in the Office of Naval Officer Procurement in the Ninth Naval District.

Dan and his wife make many trips to Indiana. Their two daughters married brothers, R. C. Graham, Jr. and Z. F. Graham, who are among the nation's leading scientific farmers operating more than 6,000 acres of fine farmland in Indiana. Here and in various parts of the country, Dan Heekin studies agriculture and the benefits of the various types of fertilizers, the effects of soil erosion, and the proper type of contour plowing.

One of his active hobbies is the prevention of stream pollution. Within a stone's throw of where he was raised as a boy, the United States government is just completing the nation's headquarters for the study of, among other subjects, stream pollution and prevention. The building stands eight stories high and looks out over the Little Miami and Ohio River Valleys.

The proper branding of range cattle to prevent the loss of the most valuable part of the hide and meat due to careless branding also occupies Mr. Heekin's attention. He has contributed toward a campaign of education that will standardize the size of the brand and the exact spot where the brand should be placed.

However, more typical of the friendliness and romance that make the heart of Dan Heekin, and that typify his great love for this nation, is the collection of river steamboat whistles on the walls, stairs, alcoves, and landings of the big Heekin plant in Cincinnati—all to be presented to the Ohio River museum at Marietta, Ohio. As a boy, he heard many of them from the Ohio and Mississippi River boats that tied onto the public wharf in Cincinnati—laden with cotton, molasses, tobacco, hogs-heads and cattle. In his boyhood, he visited towns that were dependent entirely on the river packets for transportation, for entertainment on the showboat that came during the summer months and for food, furniture, building materials and agriculture equipment.

These whistles were the voice of progressive America—some low and deep and powerful, others high and shrill and defiant. With names like Jos. B. Ransdell, Tom Greene, and Tacoma, some of the boats were slim, fast river packets with golden salons and officers in gold braid. Others were powerful freighters and tow-boats—like the Sprague— moving through the night with precious freight. As these old-timers went to the ship-yards to be replaced by Diesel power which uses air whistles, it was Dan Heekin who acquired those historic steam whistles. Properly documented, they are to be seen—and heard if you want to hear them—in the Heekin plant.

Daniel M. Heekin is a great industrialist who gives a lot to the canning industry and the can manufacturing industry, but like all Americans who understand what this country means to us, he contributes to his community and his country with all his ability.

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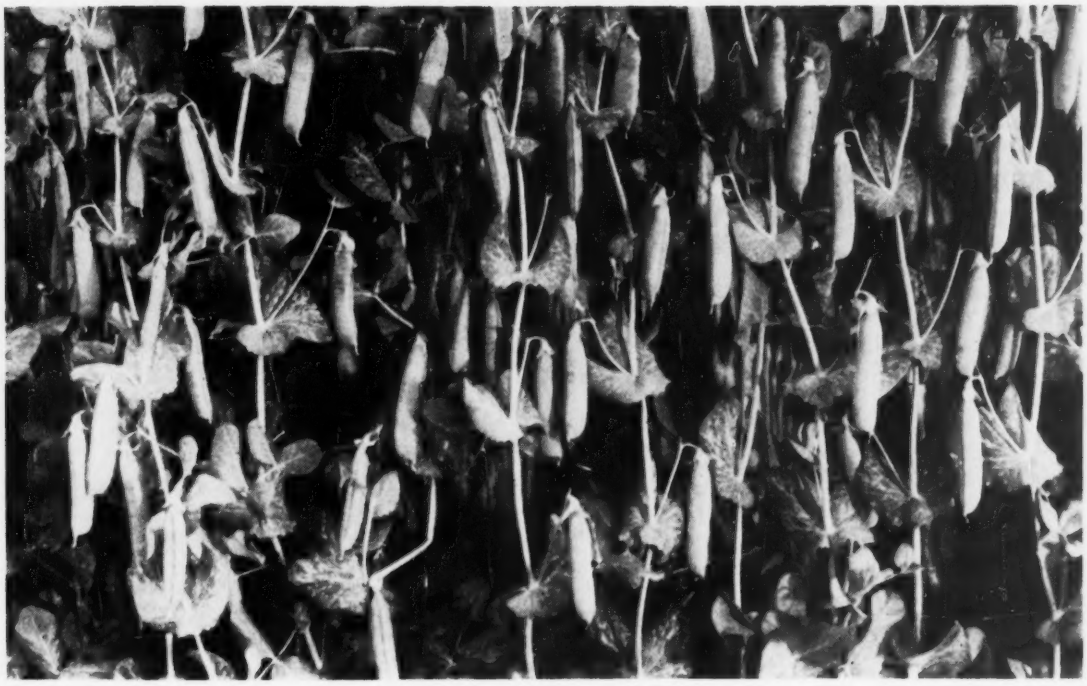

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